## **CALCULATION COVER SHEET**



Project:	INEEL V-Ta	nk Remediation Proje	ect		Number of Sheets:
Site:	Test Area N	lorth, Idaho Falls, Idaho	).		
Calculation Number:	ABQ03-HP0	003	Work Order Number:	12393.002.001.004	<b>1</b> 5
Subject:		haracterization of V-T		waste for purposes pect to 40 CFR 761	
	262.11.	nazardous waste det	eriimation with res	poor 10 40 Of 10 101 1	and 40 Of It g
Rev #:	·	Revision:	Calculated by:		Approved:
Rev #:	262.11.				-
	262.11. Date:	Revision:	Calculated by:	Checked:	-
RAA	262.11.  Date: 5-15-01	Revision: 60% Design	Calculated by: Carla Reliergert	Checked: Berg Keshian	-
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#### **Problem Statement:**

Utilizing provided characterization data from references, determine the applicable hazardous waste codes and PCB concentration for the V-Tank and sand filter waste ensuring compliance with applicable RCRA and TSCA regulations. Compare known constituent concentrations from each V-Tank and the sand filter with applicable regulatory requirements and applicable treatment standards.

#### **Method of Solution:**

A review of existing chemical data for each phase of each V-Tank and the sand filter was performed and highest constituent concentrations were input into Excel 2000 tables. Applicable regulatory limits as well as wastewater and non-wastewater LDR treatment standards were also entered into these tables. Note these tables are attached as referenced herein.

## **Assumptions:**

- The contents of each tank will eventually be separated into liquid and sludge/solid phases and each phase will be managed separately based on highest constituent concentrations present in that phase of the waste
- 2. Dilution of the tank waste will not occur during phase separation.
- 3. This review does not evaluate the V-Tank and sand filter waste for compliance with DOT, and this evaluation does not include a review of the radiological constituents present or activity of the V-Tank waste and sand filter.
- 4. With regards to the characterization data, when constituents were not detected and the detection limit was below either the regulatory limit or the applicable LDR treatment standard, it was assumed that the constituent was not present in the waste and was not evaluated for purposes of compliance with RCRA or TSCA requirements.
- 5. With regards to the characterization data, the highest reported concentration for the waste reviewed was included in the Excel tables for comparison against regulatory limits as well as LDR treatment standards.
- 6. With regards to the characterization data, it was assumed that P-listed and U-listed discarded commercial chemical products or chemical intermediates, and K-listed waste associated with specific industrial processes, do not apply to the V-Tank waste.
- 7. With regards to the chemical characterization data, it was assumed that only those constituents analyzed are considered contaminants of concern for this waste.
- 8. With regards to the chemical characterization data, when a constituent was not detected and the detection limit exceeded either the regulatory limit or the LDR treatment standard limit, it was assumed that those constituents are present at the detection limit value (if no additional sampling and analysis is performed on the waste prior to treatment).
- 9. With regards to the chemical characterization data, it was assumed that the only F-listed constituent present in the waste is Trichloroethene only, based on previous comments and on historical information.
- 10. With regards to the chemical characterization data, all reported analytical results were representative of each phase of V-Tank waste and sand filter.

#### Sources of Formulas and References:

- Maximum Theoretical Leachate Concentration (mg/L) using reported total concentration data (mg/kg) divided by 20 for inorganic analysis and TCLP organics. Reference: RCRA Regulations and Keyword Index, 2000 Edition, Chapter 19, "Regulatory Questions and Answers From the RCRA Hotline, RCRA Question-309, Use of Total Waste Analysis in Toxicity Characteristic Determinations".
- 2. Wastewater definition: Wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). Reference: RCRA Regulations and Keyword Index, 2000 Edition, Chapter 8, "40 CFR Part 268: Land Disposal Restrictions", specifically, 40 CFR 268.2 (f).

#### Characterization Data From:

Comprehensive Remedial Investigation/Feasibility Study (RI/FS) for Test Area North Operable Unit 1-10 at INEEL, DOE/ID-10557, November 1997, Dept. of Energy/Idaho Operations Office, Idaho Falls, ID.

#### Regulatory Requirements From:

RCRA Regulations and Keyword Index, 2000 Edition, Chapter 2, "40 CFR Part 261: Identification and Listing of Hazardous Waste" and Chapter 8, "40 CFR Part 268: Land Disposal Restrictions".

40 CFR 761 – July 2000, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, and Distribution in Commerce and Use Prohibitions, *Code of Federal Regulations*, Office of the Federal Register.

June 29, 1998 Federal Register (Vol. 63 FR 35384), 40 CFR Parts 750 and 761, Disposal of Polychlorinated Biphenyls (PCBs); Final Rule

### Calculation:

Refer to (Attachment 1) Excel tables labeled "INEEL V-Tank Number VOC (or SVOC, Inorganic, Miscellaneous or PCB) Analysis on either Solid or Liquid Phase."

#### **Discussion:**

Ultimately, the management and eventual treatment and disposal of waste associated with the removal of the V-Tanks and concrete sand filter, will be based on the characterization of the V-Tank waste and sand filter. A preliminary chemical characterization of the V-Tank waste was performed based on the separation of waste phases. A summary of the results are reported below:

Tank/ Waste Phase	Applicable Chemical Characterization
V-1 (Liquid)	Trichloroethene as F001 and Hexachlorobenzene and Hexachlorobutadiene as D-codes. VOCs, SVOCs and inorganics as an Underlying Hazardous Constituents (UHCs). Mercury as a D009.
V-1 (Solid)	Trichloroethene as F001, and Tetrachloroethane, Hexachlorobenzene, Hexachlorobutadiene, Nitrobenzene, and 2,4,6-Trichlorophenol as a D-code SVOCs and inorgancis as Underlying Hazardous Constituents (UHCs). PCBs > 50 ppm present.
V-2 (Liquid)	Trichloroethene as F001 and 2,4-Dinitrotoluene, Hexachlorobenzene,and Hexachlorobutadiene as D-codes. SVOCs as UHCs.
V-2 (Solid)	Trichloroethene as F001and Tetrachloroethane, Vinyl chloride, 2,4-Dinitrotoluene, Hexachloroethane, Pentachlorophenol and Pyridine as D-codes. Chloroethane, inorganics and SVOCs as Underlying Hazardous Constituents (UHCs). Cadmium as D006. PCBs > 50 ppm present.
V-3 (Liquid)	Trichloroethene as F001 and 2,4-Dinitrotoluene, Hexachlorobenzene, and Hexachlorobutadiene as D-codes. Chloromethane and SVOCS as UHCs
V-3 (Solid)	Trichloroethene as F001, and Hexachloroethane, 2,4-Dinitrotoluene, Pyridine and Vinyl chloride as D-code. VOCs, SVOC and inorganic as UHCs. PCBs > 50 ppm present.
V-9 (Liquid)	Trichloroethene, as F001. Benzene, Chloroform, 1,2-Dichloroethane, 1,1-Dichloroethene, and Tetrachloroethene as D-codes. SVOCs and VOCs as UHCs. Cadmium as D006 and mercury as D009.
V-9 (Solid)	Trichloroethene as F001and Tetrachloroethane, 1,1,1-Trichloroethane and 1,2-Dichlorobenzene as either a D-codes or as Underlying Hazardous Constituents (UHCs). Benzene as D018, Chloroform as D022, 1,2-Dichloroethane as D028, 1,1-Dichloroethene as D029, and Pyridine as D038. D006-Cadmium, D007-Chromium, D008-Lead, D009-Mercury, and D011-Silver. Additional UHCs. PCBs > 50 ppm present.
Sand Filter (Solid)	Trichloroethene as F001. Cadmium as Underlying Hazardous Constituent. PCBs > 50 ppm present.

Several VOC and SVOC constituents were not detected in the waste, however detection limits exceeded either regulatory limits and/or applicable LDR treatment standards. In this case, these constituents could not conclusively be eliminated as not being present in the waste. Therefore, this characterization has assumed these constituents to be present in the waste at the detection limit value or concentration. A majority of these constituents have been identified as underlying hazardous constituents (UHCs). In addition, several constituents were rejected as a result of data validation and determined unusable.

It is recognized that some organics have densities greater than water and that when the sludges are pumped, some of the organics may be disbursed or dissolved into the water phase. Treatment systems have been designed with a safety factor to account for this effect. Sampling of liquids will occur after the liquid treatment, since the treatment system is designed for worst-case scenario from Tank V-9.

## **Summary of Results:**

The existing analytical data associated with the waste from each tank and sand filter was reviewed and a preliminary hazardous waste determination was developed. The basis behind this determination is based on the separation of liquid phased from the sludge or solid phase of the waste. This approach is consistent with an alternative method of managing multi-phasic wastes developed by EPA and described in the preamble language of the June 29, 1998 FR, specifically 63 FR 35388, in that "If the waste is separated into phases, each phase may be disposed of according to the disposal requirements applicable to that phase." This is based on compliance with the anti-dilution provision at 40 CFR 761.1(b)(5).

This approach is also consistent with Option 3 for containerizing V-Tank and sand filter waste for compliance with applicable DOT packaging requirements and classification with respect to 10 CFR §61.55 calculations presented in calculation ABQ02-HP002. Consistent with this option, separation of the waste phases may allow the liquid phase from Tanks V-1, V-2, and V-3 to be shipped at once assuming all waste acceptance criteria are met.

### **Conclusions and Recommendations:**

- 1. Separate the multiphasic V-Tank waste and manage each phase separately.
- 2. Determine TCLP mercury concentration for V-9 solid phase in order to effectively determine if the waste should be managed as a high mercury organic waste.

## **Computer Source:**

Compaq DeskPro with Microsoft Windows NT operating system and Office 2000 software.

Preliminary Summary of Chemical Characterization Data Associated with TSF-09 and TSF-18 Tanks

Tank Number	Waste Phase	VOC Analysis	SVOC Analysis	Inorganic Analysis	LDR Treatability Group	PCBs	Specified Method of Treatment
٧-1	Liquid	F001 (Trichloroethene) Two UHCs	56 UHCs D032 (Hexachloro- benzene) D033 (Hexachloro- butadiene)	D009 (Mercury) UHCs (Antimony & Lead)	Wastewater	U (0.1 mg/L)	
<b></b>	Sludge	F001 (Trichloroethene) D039 (Tetrachloroethene)	55 UHCs D032 (Hexachlorobenzene) D033 (Hexachlorobutadiene) D036 (Nitrobenzene) D042 (2,4,6-Trichlorobhenol)	UHCs (Antimony, Beryllium, Cadmium, & Nickel)	Non- wastewater	660 mg/kg	Incineration is required for PCBs
V-2	Liquid	F001 (Trichloroethene) One UHC	D030 (2,4- Dinitrotoluene) D032 (Hexachloro- benzene) D033 (Hexachloro-	None	Wastewater	U (0.1 mg/L)	
V-2	Sludge	F001 (Trichloroethene) D039 (Tetrachloroethene)	56 UHCs D030 (2,4-Dinitrotoluene) D034 (Hexachloro-ethane) D037 (Pentachlorophenol) phenol)	D006 (Cadmium) UHCs (Antimony, Chromium, & Nickel)	Non- wastewater	260 mg/kg	Incineration or a high efficiency boiler or disposal in an approved landfill is required for PCBs.
V-3	Liquid	F001 (Trichloroethene) One UHC	D030 (2,4- Dinitrotoluene) D032 (Hexachloro- benzene) D033 (Hexachloro- butadiene)	None	Wastewater	U (0.1 mg/L.)	
V-3	Sludge	F001 (Trichloroethene) D039 (Tetrachloroethene) D043 (Vinyl Chloride)	51 UHCs D030 (2,4- Dinitrotoluene) D034 (Hexachloro-ethane) D038 (Pyridine)	UHCs (Antimony, Cadmium, Chromium & Nickel)	Non- wastewater	400 mg/kg	Incineration or a high efficiency boiler or disposal in an approved landfill is required for PCBs.

Tank Number	Waste Phase	VOC Analysis	SVOC Analysis	Inorganic Analysis	LDR Treatability Group	PCBs	Specified Method of Treatment
6-7	Liquid	F001 (Trichloroethene) D018 (Benzene), D022 (Chloroform), D028 (1,2- Dichloroethane), D029 (Dichloroethene), D039 (Tetrachloroethene) 23 UHCs	Six as UHCs	D006 (Cadmium) D009 (Mercury) UHCs (Lead & Nickel)	Wastewater	0.036 mg/L	
6->	Sludge	F001 (Trichloroethene) D018 (Benzene), D022 (Chloroform), D028 (1,2- Dichloroethane), D029 (Dichloroethene), D039 (Tetrachloroethene) 21 UHCs	60 as UHCs D038 (Pyridine)	D006 (Cadmium) D007 (Chromium) D008 (Lead) D009 (Mercury) D011 (Silver) UHCs (Barium, Beryllium, Nickel	Non- wastewater	310 mg/kg	Incineration or high efficiency boiler or disposal in an approved landfill is required for PCBs. For mercury, if it is determined to be High Mercury Subcategory, Retorting or Roasting capable of recovering the mercury is required.
Sand Filter	Solid	F001 (Trichloroethene)		UHC (Cadmium)	Non- wastewater	290 mg/kg	Incineration or a high efficiency boiler or disposal in an approved landfill is required for PCBs.

ATTACHMENT 1 – INEEL OU 1-10 SITE TSF 09 AND 18, TANK V-1, V-2, V-3, V-9 AND SAND FILTER CHEMICAL CHARACTERIZATION SUMMARIES

# INEEL OU 1-10 Site TSF-09, Tank V-1 Preliminary Liquid Phase Chemical Characterization Summary

- The <u>liquid phase</u> of the waste associated with this tank <u>is considered a wastewater</u> for purposes of complying with the Land Disposal Restrictions, in that it contains <1% TOC and <1% TSS. This determination as well as the hazardous waste determination listed below is preliminary based on existing analytical data.
- **Hazardous Waste Determination:** Highest concentrations detected in the waste are reported.

The RCRA Waste codes that apply to this waste are as follows:

Constituent	Concentration Detected in Waste (mg/L)	Regulatory Limit (mg/L)	Applicable Waste Code	LDR Treatment Standard for wastewater (mg/L)
Antimony	1.9 (assumed)	1.9	UHC	1.9
Lead	0.84 J	0.69	UHC	0.69
Mercury	0.369	0.2	D009	0.15
Chloromethane	0.19 (assumed)	0.19	UHC	0.19
Hexachloro- benzene	ND @ 1	0.13	D032	0.055
Hexachloro- butadiene	ND @ 1	0.5	D033	0.055
Tetrachloroethene	0.14 J	0.7 mg/ L as a D039, None if F- listed, (0.056 as a UHC)	UHC	0.056
Trichloroethene	0.16 Ј	0.5 mg/L as D040, None if F-listed, or 0.054 as a UHC	F001	0.054

Note: SVOCs are also identified to be present as UHCs. See write-up below.

- UHC = Underlying Hazardous Constituent
   J = Estimated Value
   ND = Not Detected
- Based on a review of the inorganic analysis, antimony is the only constituent in which, the data was rejected during data validation, and determined to be unusable. Therefore, conservatively, antimony is identified to be present at the treatment standard limit and is identified as an underlying hazardous constituent.

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- Based on a review of the volatile organic analysis, chloromethane is the only constituent in which, the data was rejected during data validation, and determined to be unusable. Therefore, conservatively, chloromethane is identified to be present at the treatment standard limit and is identified as an underlying hazardous constituent.
- The detection limits for a majority of the SVOCs were above the wastewater treatment standards, as well as the characteristic limits for several constituents. LDR guidance suggests that in cases where detection limits are above either the characteristic limit or treatment standards, the generator may use his knowledge of the waste, in lieu of analytical results, to certify that these constituents are not present in the waste. However, since this waste will not be re-analyzed for these constituents. the following SVOCs are also assumed to be present in the waste at the detection limit value (see attached tables for concentrations) and are identified as underlying hazardous constituents (The table above identifies only those SVOCs with detection limits exceeding the characteristic limit): Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,I)perylene, Benzo(k)fluoranthene, Butylbenzylphthalate, Bis (2chloroethoxy) methane, Bis (2-chloroethyl) ether, Bis (2-chloroisopropyl) ether, 4-Bromophenyl-phenylether, Chrysene, 4-Chloroaniline, 4-Chloro-3-Methylphenol, 2-Chloronaphthalene, 2-Chlorophenol, Dibenz(a,h)anthracene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 3,3-Dichlorobenzidine, 2,4-Dichlorophenol, Diethylphthalate, 2,4-Dimethylphthalate, Dimethylphthalate, Di-nbutylphthalate, Di-n-octylphthalate, 2,4-Dinitrophenol, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorocyclopentadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, 2-Methylphenol, 4-Methylphenol, Napthalene, 2-Nitroaniline, 3-Nitroaniline, 4-Nitroaniline, Nitrobenzene, 2-Nitrophenol, 4-Nitrophenol, N-nitroso-di-n-propylamine, N-nitrosodiphenylamine, Pentachlorophenol, Phenanthrene, Phenol, Pyrene, Pyridine, 1,2,4-Trichlorobenzene, 2,4,5-Trichlorophenol, and 2,4,6-Trichlorophenol.
- Based on a review of the analytical data provided by INEEL, this waste is considered both characteristic with underlying hazardous constituents, and a listed hazardous waste, which must be treated to meet the land disposal restrictions.

#### Recommendation:

If this waste will not be treated on-site, the waste acceptance criteria of possible offsite treatment facilities should also be considered.

INEEL V-1 VOC Analysis on liquid phase.

	Comments								
LDR Treatment Standard for	non- wastewater in mg/kg	160	10	15	15	15	36	4.8 mg/l	9
LDR Treatment	Standard for wastewater in mg/l	0.28	0.14	0.35	0.63	0.11	0.28	3.8	0.057
Anniicahla	Applicable RCRA Waste Code	UHC	D018 or UHC	UHC	UHC	ÜHC	D035 or UHC	UHC	UHC
olderiland	Applicable Regulatory Limit	Treatment standard limit if UHC	0.5 mg/l (D018) or treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	200 mg/l (D035) or treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC
	Concentration mg/L	U (0.011)	U (0.01) J	U (0.01) J	U (0.01) J	U (0.01) J	U (0.01) J	U (0.01) J	U (0.01) J
	Constituents	Acetone	Benzene	Bromodichloromethane	Bromoform (Tribromomethane)	Bromomethane	2-Butanone (MEK)	Carbon disulfide	Carbon tetrachloride

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value R = Result rejected during validation and unusable.

INEEL V-1 VOC Analysis on liquid phase.

nt for ter g Comments				Since this value was rejected, it will have to be re-analyzed to determine concentration in the waste.			
LDR Treatment Standard for non- wastewater in mg/kg	9	9	9	30	15	9	9
LDR Treatment Standard for wastewater in mg/l	0.057	0.27	0.046	0.19	0.057	0.059	0.21
Applicable RCRA Waste Code	D021 or UHC	UHC	D022 or UHC	UHC	UHC	UHC	D028 or UHC
Applicable Regulatory Limit	100 mg/l (D021) or Treatment standard limit if UHC	Treatment standard limit if UHC	6 mg/l (D022) or treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	0.5 mg/l (D028), or treatment standard limit if UHC
Concentration mg/L	U (0.01) J	U (0.01) J	U (0.01) J	0.01 R	U (0.01) J	U (0.01) J	U (0.01) J
Constituents	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane (Chlorodibromomethane)	1,1-Dichloroethane	1,2-Dichloroethane

U = Not Detected (Detection limit in parenthesis).
J = Estimated Value
R = Result rejected during validation and unusable.

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Tank V-1

INEEL V-1 VOC Analysis on liquid phase.

				Comments																									
LDR	Treatment	Standard for	non- wastewater	in mg/kg			9	NA		(	18			18			18			10		NA		c	33		,	30	NA NA
	LDR	Treatment	Standard for	in mg/l			0.025	NA		i (	0.85		•	0.036			0.036		****	0.057		NA		7	0.14		6	0.089	NA
			Applicable RCRA Waste	Code			D029 or UHC	NA		(	OHC			OHC			UHC			OHC		NA		Ç	200		:	OHC	AN
			Applicable	Limit	0.7 mg/l (D029)	or treatment standard limit if	UHC	None	Treatment	standard limit if	UHC	Treatment	standard limit if	었	Treatment	standard limit if	UHC	Treatment	standard limit if	UHC		NA	Treatment	standard limit if	בוס ו	Treatment	standard limit if	OHC	AN
			Concentration				U (0.01) J	0.058 J			U (0.01) J			U (0.01) J			U (0.01) J			U (0.01) J		U (0.01) J		1 (60 0)	U (U.U.) J			U (0.01) J	U (0.01) J
				Constituents			1,1-Dichloroethene	1,2-Dichloroethene (total)			1,2-Dichloropropane			cis-1,3-Dichloropropene		trans-1,3-	Dichloropropene			Ethylbenzene	2-Hexanone (Methyl n-	butyl ketone)		4-Methyl-2-pentanone	(MIIK)		:	Methylene chloride	Styrene

U = Not Detected (Detection limit in parenthesis).
J = Estimated Value
R = Result rejected during validation and unusable.

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Tank √-1

INEEL V-1 VOC Analysis on liquid phase.

Comments		The concentration 0.14 mg/L is below the	characteristic limit, however it exceeds the wastewater treatment standard.				The concentration 0.16 mg/L is below the characteristic limit, however it exceeds the wastewater treatment standard.		
LDR Treatment Standard for non- wastewater in mg/kg	9		9	10	9	9	9	9	AN
LDR Treatment Standard for wastewater in mg/l	0.057		0.056	0.08	0.054	0.054	0.054	0.27	NA
Applicable RCRA Waste Code	UHC		D039 or UHC	UHC	OHC	UHC	F001	D043 or UHC	NA
Applicable Regulatory Limit	Treatment standard limit if UHC	0.7 mg/l (D039) or treatment	standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	None if listed	0.2 mg/l (D043), orTreatment standard limit if UHC	NA
Concentration mg/L	U (0.01) J		0.14 J	U (0.01) J	U (0.01) J	U (0.01) J	0.16 J	U (0.01) J	U (0.01) J
Constituents	1,1,2,2- Tetrachloroethane		Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (ortho)

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value R = Result rejected during validation and unusable.

INEEL V-1 VOC Analysis on liquid phase.

·	Comments			
LDR LDR Treatment Treatment Standard for non- wastewater wastewater	in mg/kg			30
0 -	in mg/l			0.32
Applicable RCRA Waste	Code			UHC
Applicable Regulatory	Limit	Treatment	standard limit if	OHC
Concentration	mg/L			U (0.01) J
	Constituents		Xylene (total meta and	para)

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value Result rejected during validation and unusable.

INEEL V-1 SVOC Analysis on liquid phase.

				Γ		Γ			-	]				-		_		Γ	Ι	_		_					_
	Comments	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.			1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.
LDR Treatment Standard for non- wastewater	ın mg/kg		3.4		3.4		3.4	-	3.4		3.4		6.8		1.8		6.8	NA	NA		28		7.2		9	!	7.2
LDR Treatment Standard for wastewater	ın mg/ı	1	0.059		0.059		0.059		0.059		0.061		0.11		0.0055		0.11	۸A	NA		0.017		0.036		0.033	!	0.055
Applicable RCRA Waste	Code	:	OHC		OHC		CHC		OHC		OHC		OHC		CHC		CHC	NA	ΑN		CHC		OHC		OHC	:	OHC
Applicable Regulatory	LIMIT	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	UHC Treatment	Standard	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	UHC Treatment	Standard	UHC Treatment	Standard	UHC Treatment	Standard	None	None	<b>UHC Treatment</b>	Standard	UHC Treatment	Standard	UHC Treatment	Standard	UHC Treatment	Standard
Concentration	mg/L		U (1)	U (5)	U (1)		U (1)		U (1)		U (1)		U(1)														
	Constituents	:	Acenaphthene		Acenaphthylene		Anthracene		Benzo (a) anthracene		Benzo (a) pyrene		Benzo (b) fluoranthene		Benzo (g,h,l) perylene		Benzo (k) fluoranthene	Benzoic acid	Benzyl alcohol		Butylbenzylphthalate	Bis (2-	chloroethoxy)methane		Bis (2-chloroethyl)ether	:	Bis (2-chloroisopropyi) ether

U = Not Detected (Detection limit in parenthesis).

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J = Estimated Value

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INEEL V-1 SVOC Analysis on liquid phase.

Applicable Applicable Standard for non- Segulatory RCRA Waste wastewater wastewater	Code in mg/l		Standard UHC 0.28 28 standards, therefore it is not a UHC.		Standard UHC 0.055 15 wastewater treatment standard.	None NA NA NA	None NA NA NA		Standard UHC 0.059 3.4 wastewater treatment standard.		Standard UHC 0.46 16 wastewater treatment standard.		Standard UHC 0.018 14 wastewater treatment standard.		Standard UHC 0.055 5.6 wastewater treatment standard.	None NA NA		Standard UHC 0.044 5.7 wastewater treatment standard.		Standard UHC 0.055 8.2 wastewater treatment standard.	None NA NA NA	IC Treatment 1 mg/L detection limit exceeds the	Standard UHC 0.088 6 wastewater treatment standard.	IC Treatment
 Applicable Applica Regulatory RCRA W		ent		ent				ent		ent		ent		ent			ent		ent			UHC Treatment	-	UHC Treatment
Concentration	mg/L		0.083 J		U (1)	U (1)	U (1)		U (1)		. U(1)		U (1)		U(1)	U (1)		U (1)		U (1)	U (1)	)	U (1)	
	Constituents		Bis (2-ethylhexyl) phthalate		4-Bromophenyl-phenylether	Butylbenzylphthalate	Carbozole (or Carbazole)		Chrysene	4-Chloroaniline (p-	chloroaniline)	4-Chloro-3-Methylphenol (p-	chloro-m-cresol)		2-Chloronaphthalene	4-Chlorophenyl-phenylether		2-Chlorophenol		Dibenz(a,h)anthracene	Dibenzofuran	1,2-Dichlorobenzene (o-	dichlorobenzene)	1,3-Dichlorobenzene (m-

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-1 SVOC Analysis on liquid phase.

				Comments		1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.		5 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.	1 mg/L detection limit exceeds the	wastewater treatment standard.
LDR Treatment	Standard for	-uou	wastewater	in mg/kg			9		8.2		14		28		14		28		28		28	AN		160		140		28		3.4
LDR	Treatment	Standard for	wastewater	l/gm ui			0.09		0.055		0.044		0.2		0.036		0.047		0.057		0.017	NA		0.12		0.32		0.55	1	0.068
	•	Applicable	RCRA Waste	Code			D027, UHC		UHC		UHC		UHC		UHC		OHC		UHC		UHC	NA		OHC		UHC		OHC	:	CHC
		Applicable	Regulatory	Limit	7.5 (D027), UHC	Treatment	Standard	UHC Treatment	Standard	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	UHC Treatment	Standard	None	UHC Treatment	Standard												
			Concentration	mg/L			U(1)		U (1)	U (5)		U (5)		U (1)		U (1)	· · ·	U (1)												
				Constituents		1,4-Dichlorobenzene (p-	dichlorobenzene)	3,3-Dichlorobenzidine	(Dibenz (a,h) anthracene)		2,4-Dichlorophenol		Diethylphthalate		2,4-Dimethylphenol		Dimethylphthalate		Di-n-butylphthalate		Di-n-octylphthalate	4,6-Dinitro-2-methylphenol		2,4-Dinitrophenol		2,4-Dinitrotoluene		2,6-Dinitrotoluene	:	Fluoranthene

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-1 SVOC Analysis on liquid phase.

				LDR	LDR Treatment	
		Applicable	Applicable	Standard for	Standard for non-	
Constituents	Concentration mg/L	Regulatory Limit	RCRA Waste Code	wastewater in mg/l	wastewater in mg/kg	Comments
		UHC Treatment		)		1 mg/L detection limit exceeds the
Fluorene	U (1)	Standard	UHC	0.059	3.4	wastewater treatment standard.
		0.13 (D032),				1 mg/L detection limit exceeds the
Hexachlorobenzene	U (1)	Standard	D032, UHC	0.055	10	cranaciersuc mini and the wastewater treatment standard.
		0.5 (D033)UHC				1 mg/L detection limit exceeds the
Hexachlorobutadiene		Treatment				characteristic limit and the wastewater
(Hexachloro-1,3-butadiene	U (1)	Standard	D033, UHC	0.055	5.6	treatment standard.
		UHC Treatment				1 mg/L detection limit exceeds the
Hexachlorocyclopentadiene	U (1)	Standard	UHC	0.057	2.4	wastewater treatment standard.
		UHC Treatment		-		1 mg/L detection limit exceeds the
Hexachloroethane	U (1)	Standard	UHC	0.055	30	wastewater treatment standard.
		UHC Treatment				1 mg/L detection limit exceeds the
Indeno (1,2,3-cd) pyrene	U (1)	Standard	OHC	0.0055	3.4	wastewater treatment standard.
sophorone	U (1)	None	NA	NA	NA	
2-Methylnaphthalene	U (1)	None	NA	AN	NA	
		200 mg/L, UHC				1 mg/L detection limit is below the
		Treatment				characteristic, but exceeds the wastewater
2-Methylphenol (o-cresol)	U (1)	Standard	D023, UHC	0.11	5.6	treatment standard.
		200 mg/L, UHC				
		Treatment				Waste is below the characteristic limit, but
4-Methylphenol (p-cresol)	U (1)	Standard	D025, UHC	0.77	5.6	exceeds the ww treatment standard.
		<b>UHC Treatment</b>				1 mg/L detection limit exceeds the
Naphthalene	U (1)	Standard	CHC	0.059	5.6	wastewater treatment standard.
		UHC Treatment				5 mg/L detection limit exceeds the
2-Nitroaniline (o-nitroaniline)	U (5)	Standard	UHC	0.27	4	wastewater treatment standard.

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-1 SVOC Analysis on liquid phase.

LDR Treatment	Standard for		-uou	wastewater	in mg/kg Comments		NA	5 mg/L detection limit exceeds the	28 wastewater treatment standard.		Waste is below the characteristic limit, but	14 exceeds the ww treatment standard.	1 mg/L detection limit exceeds the	13 wastewater treatment standard.	5 mg/L detection limit exceeds the	29 wastewater treatment standard.	1 mg/L detection limit exceeds the	14 wastewater treatment standard.	1 mg/L detection limit exceeds the	13 wastewater treatment standard.	5 mg/L detection limit exceeds the	7.4 wastewater treatment standard.	1 mg/L detection limit exceeds the	5.6 wastewater treatment standard.	1 mg/L detection limit exceeds the	6.2 wastewater treatment standard.	1 mg/L detection limit exceeds the	8.2 wastewater treatment standard.		waste is below the characteristic limit, but
LDR	Treatment	Standard for	Standard for	wastewater	in mg/l		NA		0.028			0.068		0.028		0.12		0.4		0.92		0.089		0.059		0.039		0.067		
		oldcoilea	Applicable	RCRA Waste	Code		NA		UHC			D036 or UHC		UHC		UHC		UHC		UHC		UHC		UHC		UHC		UHC		
		Accilaca	Applicable	Regulatory	Limit		None	UHC Treatment	Standard	2.0 (D036) or	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	<b>UHC Treatment</b>	Standard	<b>UHC Treatment</b>	Standard	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	UHC Treatment	Standard	5.0 (D038) or	UHC Ireatment
			:	Concentration	mg/L		U (5)		U (5)			U (1)		U (1)		U (5)		U (1)		U (1)		U (5)		U (1)		U (1)		U (1)		•
					Constituents	3-Nitroaniline (m-	nitroaniline)		4-Nitroaniline (p-nitroaniline)			Nitrobenzene	2-Nitrophenol (o-	nitrophenol)	4-Nitrophenol (p-	nitrophenol)	N-nitroso-di-n-propylamine	(Di-n-propylnitrosamine)	N-nitrosodiphenylamine	(Diphenylnitrosamine)		Pentachlorophenol		Phenanthrene		Phenol		Pyrene		:

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-1 SVOC Analysis on liquid phase.

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					LDR	
				LDR	Treatment	
				Treatment	Treatment Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	<b>RCRA Waste</b>	wastewater	wastewater	
Constituents	mg/L	Limit	Code	in mg/l	in mg/kg	Comments
		UHC Treatment				1 mg/L detection limit exceeds the
1,2,4-Trichlorobenzene	U (1)	Standard	UHC	0.055	19	wastewater treatment standard.
		400 (D041),				
		UHC Treatment				Waste is below the characteristic limit, but
2,4,5-Trichorophenol	U (5)	Standard	D041, UHC	0.18	7.4	exceeds the ww treatment standard.
		2 (D042), UHC				
		Treatment				Waste is below the characteristic limit, but
2,4,6-Trichlorophenol	U (1)	Standard	D042, UHC	0.035	7.4	exceeds the ww treatment standard.

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-1 Inorganic Analysis on liquid phase.

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

B = Reported value is > to instrument detection limit but < contract required detection limit. R = Result rejected during data validation and unusable.

INEEL V-1 Inorganic Analysis on liquid phase.

					LDR	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/L	Limit	Code	in mg/L	in mg/kg	Comments
Magnesium	23.1	NA	VΝ	AN	ΑΝ	
Manganese	2.78	NA	NA	NA	NA	
		0.2 (D009), UHC				
		Treatment			0.025 mg/L	Mercury exceeds the characteristic level
Mercury	0.369	Standard	D009, UHC	0.15	TCLP	and exceeds the ww treatment standard.
		UHC Treatment			11 mg/L	Concentration is below the treatment standard
Nickel	0.529	Standard	UHC	3.98	TCLP	limit.
Potassium	104	NA	NA	AN	NA	
					5.7 mg/L	
Selenium	O (0.005)	1 (D010)	D010	0.82	TCLP	
Silica	16.6 J	NA	VΝ	AN	AN	
		5 (D011), UHC				
		Treatment			0.14 mg/L	Concentration is below the characteristic limit
Silver	0.059	Standard	D011, UHC	0.43	TCLP	and below the treatment standard limit.
Sodium	288	VΑ	۷N	ΑN	ΑN	
		UHC Treatment			0.2 mg/L	
Thallium	U (0.005) B	Standard	UHC	1.4	TCLP	
Vanadium	(0.06) U	۷N	NA	AN	NA	
Zinc	60.3	AN	NA	NA	ΨZ	

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

B = Reported value is > to instrument detection limit but < contract required detection limit. R = Result rejected during data validation and unusable.

INEEL V-1 Miscellaneous Analysis on liquid phase.

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R nent rd for	n- vater	J/kg Comments								Wastewater is defined as < 1% TOC and < 1%	TSS.		Wastewater is defined as < 1% TOC and < 1%	TSS.	
LDR Treatment Standard for	non- wastewater		AN	ΑN	ΑΝ	NA	ΑN	NA	NA		A N	NA		-NA	NA
LDR Treatment	Standard for wastewater	in mg/L	AN	ΑN	NA	AN	NA	NA	NA		ΑN	NA		AN	NA
	Applicable RCRA Waste	Code	NA	AN	NA	NA	NA	AN	NA		NA NA	NA		NA	NA
	Applicable Regulatory	Limit	None	None	None	None	None	None	None		< 1%	NA		<1%	None
	Concentration	mg/L	2.67	240	(2) N	U (2)	U (4)	1.2	12.8		62.9	183		8	4.17
		Constituents	Bromide	Chloride	Fluoride	Nitrate	Nitrite	Phosphate	Sulfate		Total Organic Carbon	Total Halides		Total Suspended Solids	Oil & Grease

U = Not Detected (Detection limit in parenthesis). TOC = 65.9 mg/L = 8.0 E-4% which is < 1%. Therefore, liquid phase is considered a wastewater.

INEEL V-1 PCB Analysis on liquid phase.

					LDR	
				LDR	Treatment	
				Treatment	Treatment   Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	TSCA/RCRA	wastewater	wastewater	
Constituents	mg/L	Limit	Waste Code	in mg/L	in mg/kg	Comments
Aroclor-1016	U (0.1)	c	None	ΑN	ΑN	
Aroclor-1221	U (0.2)	NA	NA	ΑN	NA	
Aroclor-1232	U (0.1)	AN	NA	ΑN	NA	
Aroclor-1242	U (0.1)	AN	NA	ΑN	NA	
Aroclor-1248	U (0.1)	AN	NA	ΨN	NA	The state of the s
Aroclor-1254	U (0.1)	NA	NA	ΝΑ	NA	
Aroclor-1260	U (0.1)	NA	NA	AN	NA	
		50 mg/kg for				
		TSCA, UHC				This waste is not regulated under TSCA and it
		Treatment				is below the UHC treatment standard level.
		Standard for				Therefore, no PCB treatment is required prior
Total Concentration	U (0.1)	RCRA	None	0.1	10	to disposal.

U = Not Detected (Detection limit in parenthesis).

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# INEEL OU 1-10 Site TSF-09, Tank V-1 Preliminary Sludge Chemical Characterization Summary

- The sludge phase of the waste associated with this tank is considered a non-wastewater for purposes of complying with the Land Disposal Restrictions. This determination as well as the hazardous waste determination listed below is preliminary based on existing analytical data associated with this waste.
- **Hazardous Waste Determination:** Highest concentrations detected in the waste are reported.

The RCRA Waste codes that apply to this waste are as follows:

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Constituent	Concentration Detected in Waste (mg/kg)	Regulatory Limit (mg/L)	Applicable Waste Code	LDR Treatment Standard for non- wastewater (mg/kg)
Antimony	1.53 mg/L (theoretical)	1.15	UHC	1.15 mg/L
Beryllium	4.56 mg/L (theoretical)	1.22	UHC	1.22 mg/L
Cadmium	0.331 mg/L	1.0 (0.11 as a UHC)	UHC	0.11 mg/L
Nickel	26.7 mg/L (theoretical)	11	UHC	11 mg/L
Bis(2-ethyl hexyl) phthalate	U (1100) E	28 mg/kg as a UHC	UHC	28
Hexachlorobenzene	ND @ 76 or 3.8 mg/L (theoretical)	0.13	D032	10
Hexachloro- butadiene	ND @ 76 or 3.8 mg/L (theoretical)	0.5	D033	5.6
Nitrobenzene	ND @ 76 or 3.8 mg/L (theoretical)	2.0	D036	14
Tetrachloroethene	1800 ( TCLP 18.7 mg/L D)	0.7 mg/L as a D039, None if F- listed, or 6 as a UHC	D039	6
2,4,6-Trichloro- phenol	ND @ 76 or 3.8 mg/L (theoretical)	2.0	D042	7.4
Trichloroethene	23J (TCLP 3.7 mg/L D)	0.5 mg/L as a D040, None if F- listed, or 6 as a UHC	F001	6
Total PCB Concentration	660 D	50 mg/kg for TSCA and UHC Treatment Standard for RCRA	TSCA Regulated and UHC	< 50 for TSCA and 10 for RCRA

Note: SVOCs are also identified to be present as UHCs. See write-up below.

• **UHC** = Underlying Hazardous Constituent.

**U** = Not Detected (Detection limit in parenthesis)

**D** = Dilution factor of 50 (except for PCB analysis, dilution factor is 20).

J = Estimated Value.

**ND** = Not Detected

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- The inorganic analysis performed on the sludge phase of this waste was reported in a total concentration (mg/kg) and in a TCLP extract concentration (mg/L). Although high total concentrations are reported in this waste, the TCLP extract concentrations are typically below the regulatory limits as a characteristic waste. For the other inorganic analyses identified as UHCs, only total concentrations are reported. Therefore, to evaluate the regulatory status of these constituents in this solid, the total constituent concentration is divided by 20, creating the maximum theoretical leachate concentration (as referenced in the table above), which is then compared to the applicable regulatory limit. The division factor reflects the 20-to-1 ratio of extraction fluid to solid used in the TCLP test method.
- Methylene chloride was detected in this waste at a concentration of 2.7 mg/kg, however this result was flagged indicating that this constituent was also detected in the blank. In addition, this reported concentration is below the non-wastewater treatment standard for methylene chloride. Since this constituent was detected in the blank, is considered a common laboratory contaminant, and was detected below the non-wastewater treatment standard, this constituent is not reported to be present within this phase of the waste.
- The detection limits for a majority of the SVOCs were above the non-wastewater treatment standards, as well as the characteristic limits for several constituents. LDR guidance suggests that in cases where detection limits are above either the characteristic limit or treatment standards, the generator may use his knowledge of the waste, in lieu of analytical results, to certify that these constituents are not present in the waste. However, since this waste will not be re-analyzed for these constituents, the following SVOCs are also assumed to be present in the waste at the detection limit value (see attached tables for concentrations) and are identified as underlying hazardous constituents (The table above identifies only those SVOCs with detection limits exceeding the characteristic limit): Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,I)perylene, Benzo(k)fluoranthene, Butylbenzylphthalate, Bis (2chloroethoxy) methane, Bis (2-chloroethyl) ether, Bis (2-chloroisopropyl) ether, 4-Bromophenyl-phenylether, Chrysene, 4-Chloroaniline, 4-Chloro-3-Methylphenol, 2-Chloronaphthalene, 2-Chlorophenol, Dibenz(a,h)anthracene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 3,3-Dichlorobenzidine, 2,4-Dichlorophenol, Diethylphthalate, 2,4-Dimethylphthalate, Dimethylphthalate, Di-nbutylphthalate, Di-n-octylphthalate, 2,4-Dinitrophenol, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorocyclopentadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, 2-Methylphenol, 4-Methylphenol, Napthalene, 2-Nitroaniline, 4-Nitroaniline, 2-Nitrophenol, 4-Nitrophenol, N-nitrosodimethylamine, N-nitroso-di-n-propylamine, N-nitrosodiphenylamine, Pentachlorophenol, Phenanthrene, Phenol, Pyrene, Pyridine, 1,2,4-Trichlorobenzene, and 2,4,5-Trichlorophenol.
- Based on a review of the analytical data provided by INEEL, this waste is considered both a characteristic, with underlying hazardous constituents and a listed hazardous waste, as well as TSCA regulated due to the presence of PCBs > 50 ppm. This waste

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requires incineration based on 40 CFR 761 for the presence of PCBs and any form of thermal treatment for the presence of the organic constituents, followed-by stabilization of the ash for the inorganic constituents. Stabilization is only for the inorganic constituents determined to be UHCs.

#### • Recommendation:

Since this waste will require some form of thermal treatment due to the presence of organics, the waste acceptance criteria of possible treatment facilities should also be considered.

INEEL V-1 VOC Analysis on Solid Phase.

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		naracteristic er treatment sted but no					
Comments		The detection limit is below the characteristic limit as well as the non-wastewater treatment standard. Waste may still be F-listed but no treatment is required.					
LDR Treatment Standard for non- wastewater in mg/kg	160	10	15	NA	15	36	4.8 mg/l
LDR Treatment Standard for wastewater in mg/l	0.28	0.14	0.35	Ϋ́	0.11	0.28	3.8
Applicable RCRA Waste Code	UHC	D018 or UHC	UHC	AN	UHC	D035 or UHC	UHC
Applicable Regulatory Limit	Treatment standard limit if UHC	0.5 mg/l (D018) or treatment standard limit if UHC	Treatment standard limit if UHC	NA	Treatment standard limit if UHC	200 mg/l (D035) or treatment standard limit if UHC	Treatment standard limit if UHC
Concentration mg/kg	U (0.91-10)	U (0.91-10) TCLP result is U (0.5 mg/L)D	U (0.91-10)	U (0.91-10)	U (0.91-10)	U (0.91-10) TCLP result is U (0.5 mg/L)D	U (0.91-10)
Constituents	Acetone	Benzene	Bromodichloromethane	Bromoform (Tribromomethane)	Bromomethane	2-Butanone (MEK)	Carbon disulfide

ND = Not Detected (Has a dilution factor of 1000).

B = Blank Contamination

J = Estimated Value

D = Dilution factor of 50.

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Tan. V-1

INEEL V-1 VOC Analysis on Solid Phase.

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				Treatment	Standard for	
	ntration	Applicable Regulatory	Applicable RCRA Waste	Standard for wastewater	non- wastewater	
	mg/kg	Limit	Code	l/gm ui	in mg/kg	Comments
	U (0.91-10) TCLP result is U (0.5 mg/L)D	0.5 mg/L (D019) or treatment standard limit if UHC	D019 or UHC	0.057	φ	
		100 mg/l (D021)				
	U (0.91-10)	or treatment				
Chlorobenzene U (0.5 r	I CLP result is U (0.5 mg/L)D	standard limit if UHC	D021 or UHC	0.057	9	
		Treatment				
		standard limit if				
Chloroethane U (	U (10)	UHC	OHC	0.27	9	
		6 mg/l (D022) or				
6·0) ∩		treatment				
	TCLP result is	standard limit if	0000	0	(	
Chloroform U (U.5 mg/L)U	mg/L)D	Treatment	DUZZ OF UHC	0.046	٥	
		standard limit if		11		
Chloromethane U (0.9	U (0.91-10)	UHC	UHC	0.19	30	
:		Treatment				
(Chlorodibromomethane) 11 (0.9	(0 91-10)	standard ilmit ir	CHC	0.057	7.	
$\perp$		1			2	
		reatment standard limit if	•			
1,1-Dichloroethane U (0.91-10)	91-10)	UHC	ОНС	0.059	9	

ND = Not Detected (Has a dilution factor of 1000).

B = Blank Contamination

J = Estimated Value

D = Dilution factor of 50.

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INEEL V-1 VOC Analysis on Solid Phase.

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				LDR	LDR Treatment Standard for	
	Concentration	Applicable Regulatory	Applicable RCRA Waste	Standard for wastewater	non- wastewater	
1.2-Dichloroethane	U (0.91-10) TCLP result is U (0.5 ma/L)D	0.5 mg/l (D028), or treatment standard limit if UHC	D028 or UHC	0.21	φ 1	
1.1-Dichloroethene	U (0.91-10) TCLP result is U (0.5 ma/L)D	0.7 mg/l (D029) or treatment standard limit if UHC	D029 or UHC	0.025	တ	
1,2-Dichloroethene (cis- Dichloroethene)	U (10)	ΑN	NA	AN	ΨN	
trans-1,2-Dichloroethene	U (0.91-10)	Treatment standard limit if UHC	UHC	0.054	30	
1,2-Dichloropropane	U (0.91-10)	Treatment standard limit if UHC	UHC	0.85	18	
cis-1,3-Dichloropropene	U (0.91-10)	Treatment standard limit if UHC	UHC	0.036	18	
trans-1,3- Dichloropropene	U (0.91-10)	Treatment standard limit if UHC	UHC	0.036	18	
Ethylbenzene	U (0.91-10)	Treatment standard limit if UHC	OHC	0.057	10	

ND = Not Detected (Has a dilution factor of 1000).

B = Blank Contamination

J = Estimated Value

D = Dilution factor of 50.

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Tank V-1

INEEL V-1 VOC Analysis on Solid Phase.

					Comments																Using 18.7 mg/L TCLP result, waste	exceeds the characteristic limit. Using	1800 mg/kg this waste exceeds the non-	wastewater treatment standards.		
LDR	<b>Treatment</b>	Standard for	-uou	wastewater	in mg/kg		NA		33			30	NA			9								9	Ç	2
	LDR	Treatment	Standard for	wastewater	in mg/l		NA		0.14			0.089	NA			0.057								0.056	800	0.00
			Applicable	RCRA Waste	Code		NA		OHC			UHC	NA			UHC								D039 or UHC	CH	5 5
			Applicable	Regulatory	Limit		NA	Treatment	UHC	Treatment	standard limit if	OHC	NA	Treatment	standard limit if	UHC					0.7 mg/l (D039)	or treatment	solids TCLP is standard limit if	OHC	Treatment standard limit if	ر ا
				Concentration	mg/kg		U (0.91-10)		U (0.91-10)			2.7B	U (0.91-10)			U (0.91-10)	1800 in	sediment	phase & 6.0 in	a well mixed	sample of both 0.7 mg/l (D039)	liquid and	solids TCLP is	18.7 mg/L D	10004 40)	(01-18.0) 0
					Constituents	2-Hexanone (Methyl n-	butyl ketone)	4 Mothal 2 pages	(MIK)			Methylene chloride	Styrene		1,1,2,2-	Tetrachloroethane								Tetrachloroethene	Coordinate L	loluene

ND = Not Detected (Has a dilution factor of 1000).

B = Blank Contamination

J = Estimated Value

D = Dilution factor of 50.

INEEL V-1 VOC Analysis on Solid Phase.

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ND = Not Detected (Has a dilution factor of 1000).

B = Blank Contamination

J = Estimated Value

D = Dilution factor of 50.

INEEL V-1 SVOC Analysis on Solid Phase.

Conce Constituents  Acenaphthene  Acenaphthylene  Anthracene  Benzo (a) anthracene  Benzo (b) fluoranthene  U Benzo (k) fluoranthene  U Benzo (k) fluoranthene  U Benzo (k) fluoranthene  U	Concentration mg/kg (	Applicable Regulatory Limit UHC Treatment Standard UHC Treatment	Applicable Code Code UHC UHC UHC UHC UHC UHC UHC	LDR Treatment Standard for wastewater in mg/l 0.059 0.059 0.059 0.059 0.059 0.059	Treatment Standard for non- wastewater in mg/kg 3.4 3.4 3.4 3.4 3.4 6.8 6.8	Comments  Detection Limit is above the nonwastewater treatment standard.  Detection Limit is above the nonwastewater treatment standard.
	_	None	Y Y	Z Z	¥ N	
		UHC Treatment Standard	UHC	0.017	28	Detection Limit is above the nonwastewater treatment standard.
		UHC Treatment Standard	UHC	0.036	7.2	Detection Limit is above the nonwastewater treatment standard.
ח	U (36)	UHC Treatment Standard	UHC	0.033	9	Detection Limit is above the nonwastewater treatment standard.
Bis (2-chloroisopropyl) ether	n (92) n	UHC Treatment Standard	OHC	0.055	7.2	Detection Limit is above the nonwastewater treatment standard

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

E = Concentration exceeds the calibration range of the instrument; result from re-analysis is 17,000 mg/kg at a dilution factor of 10.

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INEEL V-1 SVOC Analysis on Solid Phase.

					LDR	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
o de la contra del	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	Č
Collegique	Jug/kg		ango	ı/bu uı	ın mg/kg	Comments
						Estimated concentration of 17,000 mg/kg
Bis (2-ethylhexyl)		<b>UHC Treatment</b>				exceeds the non-wastewater treatment
phthalate	U (1100) E	Standard	UHC	0.28	28	standard. It is assumed to be a UHC.
		UHC Treatment				Detection Limit is above the nonwastewater
4-Bromophenyl-phenylether	U (76)	Standard	UHC	0.055	15	treatment standard.
						Detection Limit is above the nonwastewater
Carbozole (or Carbazole)	U (76)	None	NA	NA	NA	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Chrysene	O (76)	Standard	UHC	0.059	3.4	treatment standard.
4-Chloroaniline (p-		UHC Treatment				Detection Limit is above the nonwastewater
chloroaniline)	O (26)	Standard	UHC	0.46	16	treatment standard.
4-Chloro-3-Methylphenol (p-		UHC Treatment				Detection Limit is above the nonwastewater
chloro-m-cresol)	O (76)	Standard	OHC	0.018	14	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
2-Chloronaphthalene	O (76)	Standard	UHC	0.055	5.6	treatment standard.
4-Chlorophenyl-phenylether	U (76)	None	Ϋ́	¥	Ϋ́	
2-Chlorophenol	(92) (1	UHC Treatment Standard	CHC	0.044	5.7	Detection Limit is above the nonwastewater
		UHC Treatment				Detection Limit is above the nonwastewater
Dibenz(a,h)anthracene	U (76)	Standard	OHC	0.055	8.2	treatment standard.
Dibenzofuran	(9 <i>L</i> ) (1	None	NA	NA	ΨN	
1,2-Dichlorobenzene (o-		UHC Treatment				Waste may be F-listed and the detection limit is above the non-wastewater treatment
dichlorobenzene)	U (76)	Standard	OHC	0.088	9	standard.

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

E = Concentration exceeds the calibration range of the instrument; result from re-analysis is 17,000 mg/kg at a dilution factor of

35 0 1.72

INEEL V-1 SVOC Analysis on Solid Phase.

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					֧֧֧֧֝֝֞֝֝֝֟֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֡֝֟֝֓֓֓֡֓֡֝֡֓֓֡֓֡֓֜֝֡֡֡֡֡֡֡֓֜֝	
				בקב	reatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	<b>RCRA Waste</b>	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	in mg/l	in mg/kg	Comments
1,3-Dichlorobenzene (m-		UHC Treatment				Detection Limit is above the nonwastewater
dichlorobenzene)	U (76)	Standard	UHC	0.036	9	treatment standard.
						Using 76 mg/kg, the theoretical leachate
						value is 3.8 mg/L which is above the
		7.5 mg/L (D027),				characteristic limit. The detection limit is
1,4-Dichlorobenzene (p-		UHC Treatment				above the non-wastewater treatment
dichlorobenzene)	(12) O	Standard	D027, UHC	60'0	9	standard.
3,3-Dichlorobenzidine		<b>UHC Treatment</b>				Detection Limit is above the nonwastewater
(Dibenz (a,h) anthracene)	(9 <i>L</i> ) O	Standard	UHC	0.055	8.2	treatment standard.
		<b>UHC Treatment</b>				Detection Limit is above the nonwastewater
2,4-Dichlorophenol	U (26)	Standard	UHC	0.044	14	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Diethylphthalate	U (26)	Standard	UHC	0.2	28	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
2,4-Dimethylphenol	U (76)	Standard	UHC	0.036	14	treatment standard.
		<b>UHC Treatment</b>				Detection Limit is above the nonwastewater
Dimethylphthalate	U (76)	Standard	OHC	0.047	28	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Di-n-butylphthalate	U (76)	Standard	OHC	0.057	28	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Di-n-octylphthalate	U (76)	Standard	UHC	0.017	28	treatment standard.
4,6-Dinitro-2-methylphenol	(380) (	None	NA	NA	NA	
		<b>UHC Treatment</b>				Detection Limit is above the nonwastewater
2,4-Dinitrophenol	U (380)	Standard	OHC	0.12	160	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
2,4-Dinitrotoluene	(9Z) O	Standard	UHC	0.32	140	treatment standard.

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

E = Concentration exceeds the calibration range of the instrument; result from re-analysis is 17,000 mg/kg at a dilution factor of

INEEL V-1 SVOC Analysis on Solid Phase.

		-0			Comments	Detection Limit is above the nonwastewater	treatment standard.	Detection Limit is above the nonwastewater	treatment standard.	Detection Limit is above the nonwastewater	treatment standard.	Using 76 mg/kg, the theoretical leachate	value is 3.8 mg/L which is above the	characteristic limit. The detection limit is	above the non-wastewater treatment	standard.	Using 76 mg/kg, the theoretical leachate	value is 3.8 mg/L which is above the	characteristic limit. The detection limit is	above the non-wastewater treatment	standard.	Detection Limit is above the nonwastewater	treatment standard.	Detection Limit is above the nonwastewater	treatment standard.	Detection Limit is above the nonwastewater	treatment standard.		
TEST	reatment	Standard for	-uou	wastewater	in mg/kg		28		3.4		3.4					10					5.6		2.4		30		3.4	NA	¥
90	במצ	Treatment	Standard for	wastewater	in mg/l		0.55		0.068		0.059					0.055					0.055		0.057		0.055		0.0055	NA	NA
			Applicable	<b>RCRA Waste</b>	Code		UHC		OHC		OHC					D032, UHC					D033, UHC		OHC		OHC		OHC	NA	NA
			Applicable	Regulatory	Limit	UHC Treatment	Standard	UHC Treatment	Standard	UHC Treatment	Standard		0.13 mg/L	(D032), UHC	Treatment	Standard			0.5 mg/L (D033)	UHC Treatment	Standard	UHC Treatment	Standard	UHC Treatment	Standard	UHC Treatment	Standard	None	None
				Concentration	mg/kg		(9 <i>L</i> ) O		U (76)		(9 <i>L</i> ) O					(9 <i>L</i> ) O					U (76)		U (76)		U (76)		U (76)	(9 <i>L</i> ) (9	26 J
					Constituents		2,6-Dinitrotoluene		Fluoranthene		Fluorene					Hexachlorobenzene				Hexachlorobutadiene	(Hexachloro-1,3-butadiene		Hexachlorocyclopentadiene		Hexachloroethane		Indeno (1,2,3-cd) pyrene	Isophorone	2-Methylnaphthalene

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

E = Concentration exceeds the calibration range of the instrument; result from re-analysis is 17,000 mg/kg at a dilution factor of

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10.

INEEL V-1 SVOC Analysis on Solid Phase.

					ב ה	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	<b>RCRA Waste</b>	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	l/bm ui	in mg/kg	Comments
						Using 76 mg/kg, the theoretical leachate
						value is 3.8 mg/L which is below the
		200 mg/L (D023)				characteristic limit. However, the detection
	il in a	UHC Treatment				limit is above the non-wastewater treatment
2-Methylphenol (o-cresol)	O (26)	Standard	D023, UHC	0.11	5.6	standard.
						Using 76 mg/kg, the theoretical leachate
						value is 3.8 mg/L which is below the
		200 mg/L (D025)				characteristic limit. However, the detection
		UHC Treatment				limit is above the non-wastewater treatment
4-Methylphenol (p-cresol)	(9 <i>L</i> ) O	Standard	D025, UHC	0.77	9.6	standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Naphthalene	(9Z) O	Standard	UHC	0.059	5.6	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
2-Nitroaniline (o-nitroaniline)	U (380)	Standard	UHC	0.27	14	treatment standard.
3-Nitroaniline (m-						Detection Limit is above the nonwastewater
nitroaniline)	U(380)	None	NA	NA	NA	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
4-Nitroaniline (p-nitroaniline)	U (380)	Standard	UHC	0.028	28	treatment standard.
						Using 76 mg/kg, the theoretical leachate
		2.0 mg/L (D036)				value is 3.8 mg/L which is above the
		or UHC				characteristic limit. The detection limit is
		Treatment				above the non-wastewater treatment
Nitrobenzene	(9L) O	Standard	D036 orUHC	0.068	14	standard.
2-Nitrophenol (o-		UHC Treatment				Detection Limit is above the nonwastewater
nitrophenol)	(9Z) N	Standard	OHC	0.028	13	treatment standard.
4-Nitrophenol (p-		UHC Treatment				Detection Limit is above the nonwastewater
nitrophenol)	U (380)	Standard	OHC	0.12	29	treatment standard.
U = Not Detected (Detection limit in parenthesis).	sction limit in pa	arenthesis).				

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

E = Concentration exceeds the calibration range of the instrument; result from re-analysis is 17,000 mg/kg at a dilution factor of

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INEEL V-1 SVOC Analysis on Solid Phase.

					IUR	
				LDK	Ireatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	in mg/l	in mg/kg	Comments
		UHC Treatment				Detection Limit is above the nonwastewater
N-nitroso-dimethylamine	Ϋ́	Standard	OHC	0.4	2.3	treatment standard.
N-nitroso-di-n-propylamine		UHC Treatment				Detection Limit is above the nonwastewater
(Di-n-propylnitrosamine)	U (76)	Standard	UHC	0.4	14	treatment standard.
N-nitrosodiphenylamine		UHC Treatment				Detection Limit is above the nonwastewater
(Diphenylnitrosamine)	U (76)	Standard	UHC	0.92	13	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Pentachlorophenol	U (380)	Standard	UHC	0.089	7.4	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Phenanthrene	U (26)	Standard	UHC	0.059	5.6	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Phenol	U (76)	Standard	UHC	0.039	6.2	treatment standard.
		UHC Treatment				Detection Limit is above the nonwastewater
Pyrene	(9 <i>L</i> ) O	Standard	UHC	0.067	8.2	treatment standard.
						Using 76 mg/kg, the theoretical leachate
		5.0 mg/L (D038)				value is 3.8 mg/L which is below the
		or UHC				characteristic limit. However, the detection
		Treatment				limit is above the non-wastewater treatment
Pyridine	U (76)	Standard	D038 or UHC	0.014	16	standard.
		UHC Treatment				Detection Limit is above the nonwastewater
1,2,4-Trichlorobenzene	U (76)	Standard	UHC	0.055	19	treatment standard.
						Using 380 mg/kg, the theoretical leachate
		400.0 mg/L				value is 19 mg/L which is below the
		(D041), UHC				characteristic limit. However, the detection
		Treatment				limit is above the non-wastewater treatment
2,4,5-Trichorophenol	U (380)	Standard	D041, UHC	0.18	7.4	standard.

U = Not Detected (Detection limit in parenthesis).

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J = Estimated Value

E = Concentration exceeds the calibration range of the instrument; result from re-analysis is 17,000 mg/kg at a dilution factor of

INEEL V-1 SVOC Analysis on Solid Phase.

			-		רחץ	
				LDR	Treatment	
				Treatment	Treatment Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	l/bm ui	in mg/kg	Comments
						Using 76 mg/kg, the theoretical leachate
						value is 3.8 mg/L which is above the
		2.0 mg/L (D042),				characteristic limit. The detection limit is
		UHC Treatment				above the non-wastewater treatment
2,4,6-Trichlorophenol	U (76)	Standard	D042, UHC	0.035	7.4	standard.

J = Estimated Value
E = Concentration exceeds the calibration range of the instrument; result from re-analysis is 17,000 mg/kg at a dilution factor of 10.

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INEEL V-1 Inorganic Analysis on Solid Phase.

nent rd for n- water	-	Using 30.6 mg/kg, the theoretical leachate value is 1.53 mg/L which exceeds the non-ng/L wastewater treatment standard. Therefore, It may be a UHC.	TCLP result			ng/L   wastewater treatment standard. Therefore, .P it may be a UHC.		The TCLP result is below the characteristic limit, however it exceeds the nww	ng/L treatment standard limit. Therefore it may be a UHC.		The TCLP result is below both the ng/L characteristic limit and the nww treatment standard limit.
LDR Treatment Standard for non- wastewater in mg/kg	NA	1.15 mg/L TCLP	5.0 mg/L TCLP	21 mg/L TCLP	6	1.22 mg/L TCLP	ΑN		0.11 mg/L TCLP	NA	0.60 mg/L TCLP
LDR Treatment Standard for wastewater in mg/L	NA	9:1	4.1	1.2		0.82	NA		69.0	ΑΝ	2.77
Applicable RCRA Waste Code	AN	ПНС	D004, UHC	D005, UHC		UHC	NA		D006, UHC	NA	D007, UHC
Applicable Regulatory Limit	NA	UHC Treatment Standard	(D) —	100 mg/L (D005), UHC Treatment Standard		Onc Treatment Standard	NA		1.0 mg/L (D006), UHC	NA	5 mg/L (D007), UHC Treatment Standards
Concentration mg/kg	10300 D	30.6 B	18.8 , TCLP is U (0.0386 mg/L)	385, TCLP is 2.32 mg/L		91.2	341		170, TCLP is 0.331 mg/L	23120 D	1740, TCLP is 0.301 mg/L
Constituents	Aluminum	Antimony	Arsenic	Barium		Beryllium	Boron		Cadmium	Calcium	Chromium

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
B = Reported value is > instrument detection limit but < contract required detection limit.
\* = Duplicate analysis not within control limits.
D = Dilution factor of 10.

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INEEL V-1 Inorganic Analysis on Solid Phase.

Concentration         Applicable Fegulatory Process         Applicable Applicable Standard for Limit         Applicable Applicable Standard for In mg/L         Standard for In mg/L					LDR	LDR Treatment	
Concentration         Application Programmer and Programmer Progra				A	Treatment	Standard for	
mg/kg         Limit         Code         in mg/L         in mg/k           10.8         NA         NA         NA         NA           1210         NA         NA         NA         NA           35600         NA         NA         NA         NA           3230, TCLP is UCT reatment 16100D         Standard NA         NA         NA         NA           16100D         NA         NA         NA         NA           16500 D         Standard         D009, UHC         0.15         TCLP           16500 D         Standard         D010         0.15         TCLP           1650 D         NA         NA         NA         NA           1650 D         NA         NA         NA         NA		Concentration	Applicable Regulatory	Applicable RCRA Waste	Standard for waster	non- wastewater	
10.8 NA	Constituents	mg/kg	Limit	Code	in mg/L	in mg/kg	Comments
1210 NA	Cobalt	10.8	NA	NA	ΑN	NA	
3230, TCLP is UHC Treatment 0.0817 mg/L D008, UHC 0.69 TCLP D008, UHC 0.69 TCLP D008, UHC 0.0817 mg/L D009, UHC 0.69 TCLP D008, UHC 0.0817 mg/L D009, UHC 0.15 TCLP D010 D010 0.82 TCLP D010 D010 0.82 TCLP D010 UHC Treatment D011, UHC 0.43 TCLP D011, UHC D011, UHC 0.43 TCLP D011, UHC D011, UHC 0.43 TCLP D011, UHC D0	Copper	1210	NA	NA	NA	AN	
3230, TCLP is UHC Treatment 0.081, UHC Treatment 16100D NA	Iron	35600	NA	NA	NA	NA	
16100D NA		3230 TCI D is				0.75 ma/l	The TCLP result is below both the
16100D NA	Lead	0.0817 mg/L		D008, UHC	0.69	TCLP	Standard limit.
10500 D NA	Magnesium	16100D	ΝΑ	NA	ΑN	NA	
890, TCLP is U UHC Treatment (0.0001 mg/L) Standard D009, UHC 0.15 TCLP (0.0001 mg/L) Standard UHC 3.98 TCLP TC00 NA	Manganese	10500 D	NA	NA	NA A	NA	
890, TCLP is U UHC Treatment (0.0001 mg/L) Standard D009, UHC 0.15 TCLP (0.0001 mg/L) Standard UHC 3.98 TCLP (1.000 NA			0.2 mg/L (D009),				The TCLP result is below both the
UHC Treatment         11 mg/L           534         Standard         UHC         3.98         TCLP           7000         NA         NA         NA         NA           U (2.25), TCLP is U (0.0471         1 (D010)         D010         0.82         TCLP           is U (0.0471         NA         NA         NA         NA           3720 J         NA         NA         NA         NA           1000 * J, TCLP         UHC Treatment is 0.018 mg/L         Standard         D011, UHC         0.43         TCLP           5610         NA         NA         NA         NA	Merciny	890, TCLP is U	UHC Treatment	DHI 6000	7,7	0.025 mg/L TCLD	characteristic limit and the nww treatment
UHC Treatment         11 mg/L           534         Standard         UHC         3.98         TCLP           7000         NA         NA         NA         NA           U (2.25), TCLP is U (0.0471         1 (D010)         D010         0.82         TCLP           is U (0.0471         NA         NA         NA         NA           3720 J         NA         NA         NA         NA           1000 * J, TCLP         Standard         D011, UHC         0.43         TCLP           is 0.018 mg/L         Standard         D011, UHC         0.43         TCLP           5610         NA         NA         NA         NA	t include	(3,6,11,0,0,0)		2000, 0010	2	100	stalitation illilit.
534         Standard         UHC         3.98         TCLP           7000         NA         NA         NA         NA           U (2.25), TCLP is U (0.0471         1 (D010)         D010         0.82         TCLP           3720 J         NA         NA         NA         NA           1000 * J, TCLP UHC Treatment is 0.018 mg/L         Standard D011, UHC         0.43         TCLP           5610         NA         NA         NA         NA			UHC Treatment			11 ma/L	Using 534 mg/kg, the theoretical leachate value is 26.7 mg/L which exceeds the nonwastewater treatment standard. Therefore
7000     NA     NA     NA       U (2.25), TCLP     NA     NA     NA       is U (0.0471     1 (D010)     D010     0.82     TCLP       mg/L)     1 (D010)     NA     NA     NA       1000 * J, TCLP     Standard     D011, UHC     0.43     TCLP       is 0.018 mg/L     NA     NA     NA     NA	Nickel	534	Standard	UHC	3.98	TCLP	it may be a UHC.
U (2.25), TCLP is U (0.0471	Potassium	2000	NA	NA	NA	ΑN	
is U (0.0471		U (2.25), TCLP					The TCLP result is below both the
mg/L) 1 (D010) D010 0.82 TCLP 3720 J NA NA NA NA 1000 * J, TCLP UHC Treatment is 0.018 mg/L Standard D011, UHC 0.43 TCLP 5610 NA NA NA		is U (0.0471				5.7 mg/L	characteristic limit and the nww treatment
3720 J NA 1000 * J, TCLP UHC Treatment is 0.018 mg/L Standard D011, UHC 0.43 TCLP 5610 NA NA NA NA NA	Selenium	mg/L)	1 (D010)	D010	0.82	TCLP	standard limit.
5 mg/L (D011), 1000 * J, TCLP UHC Treatment is 0.018 mg/L Standard D011, UHC 0.43 TCLP 5610 NA NA NA NA	Silica	3720 J	ΝΑ	NA	NA	NA	
is 0.018 mg/L Standard D011, UHC 0.43 TCLP 5610 NA NA NA NA		1000 * J, TCLP	5 mg/L (D011), UHC Treatment			0.14 mg/L	The TCLP result is below both the characteristic limit and the nww treatment
5610 NA NA NA	Silver	is 0.018 mg/L	Standard	D011, UHC	0.43	TCLP	standard limit.
	Sodium	5610	NA	NA	ΑN	ΑN	

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

B = Reported value is > instrument detection limit but < contract required detection limit.</li>
\* = Duplicate analysis not within control limits.
D = Dilution factor of 10.

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INEEL V-1 Inorganic Analysis on Solid Phase.

TSF-09

Constituents	Concentration mg/kg	Applicable Regulatory Limit	Applicable RCRA Waste Code	LDR Treatment Standard for wastewater in mg/L	LDR Treatment Treatment Treatment Standard for tandard for non- vastewater in mg/L in mg/kg	Comments
		UHC Treatment			0.2 mg/L	Using the detection limit of 2.9 mg/kg, the theoretical leachate value is 0.15 mg/L which
Thallium	U (2.9)	Standard	OHC	1.4	TCLP	is below the nww treatment standard limit.
Tin	112	NA	۷N	ΨN	NA	
Vanadium	9.11 B	NA	NA	ΑN	ΑΝ	
Zinc	27000 D	NA	NA	₹	ΑN	

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

B = Reported value is > instrument detection limit but < contract required detection limit.
\* = Duplicate analysis not within control limits.

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D = Dilution factor of 10.

INEEL V-1 Miscellaneous Analysis on Solid Phase.

				90	LDR	
					l reatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	in mg/L	in mg/kg	Comments
Bromide	7.25	None	AN	AN	NA	
Chloride	7.6	None	NA	NA	NA	
Fluoride	U (5)	None	NA	NA	NA	
Nitrate	U (2)	None	NA	NA	NA	
Nitrite	U (4)	None	NA	AN	NA	
Phosphate	25.4	None	NA	NA	NA	
Sulfate	2540	None	NA	NA	NA	
						Wastewater is defined as < 1% TOC and < 1%
Total Organic Carbon	92900	< 1%	NA	NA	NA	TSS.
Total Halides	745	NA	NA	NA	NA	
						Wastewater is defined as < 1% TOC and < 1%
Total Suspended Solids	NA	<1%	NA	AN	NA	TSS.
Hd	7.8-8.06	$\leq$ 2 or $\geq$ 12.5	None	NA	NA	
Density (total)	1.02					

U = Not Detected (Detection limit in parenthesis). TOC = 92900 mg/kg = 9.29 %, which is > 1%. Therefore the solids are considered a non-wastewater.

INEEL V-1 PCB Analysis on solid phase.

					רמצ	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	TSCA/RCRA	wastewater	wastewater	
Constituents	mg/kg	Limit	Waste Code	in mg/L	in mg/kg	Comments
Aroclor-1016	U (13)		None	AN	ΨN	
Aroclor-1221	U (25)	ΑN	ΑN	ΑN	ΑN	
Aroclor-1232	U (13)	ΑN	ΑN	ΑN	ΑN	
Aroclor-1242	U (13)	ΑN	۷N	ΑN	VΑ	
Aroclor-1248	U (13)	ΑN	NA	ΑΝ	ΨN	
Aroclor-1254	U (13)	NA	NA.	NA	ΥN	
Aroclor-1260	Q 099	NA	NA	NA	ΑN	
		50 mg/kg for				This waste is regulated under TSCA and it
		TSCA, UHC				may be subject to the UHC treatment standard
		Treatment				level. Therefore, this waste must be
		Standard for				incinerated prior to disposal for purposes of
Total Concentration	Q 099	RCRA	None	0.1	10	PCBs.

U = Not Detected (Detection limit in parenthesis). D = Dilution factor of 20.

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# INEEL OU 1-10 Site TSF-09, Tank V-2 Preliminary Liquid Phase Chemical Characterization Summary

- The <u>liquid phase</u> of the waste associated with this tank <u>is considered a wastewater</u> for purposes of complying with the Land Disposal Restrictions, in that it contains <1% TOC and <1% TSS. This determination as well as the hazardous waste determination listed below is preliminary based on existing analytical data.
- **Hazardous Waste Determination:** Highest concentrations detected in the waste are reported.

The RCRA Waste codes that apply to this waste are as follows:

Constituent	Concentration Detected in Waste (mg/L)	Regulatory Limit (mg/L)	Applicable Waste Code	LDR Treatment Standard for wastewater (mg/L)
2,4-Dinitrotoluene	ND @ 1	0.13	D030	0.32
Hexachlorobenzene	ND @ 1	0.13	D032	0.055
Hexachlorobutadiene	ND @ 1	0.5	D033	0.055
Trans-1,2-Dichloro- ethene	0.37	0.054	UHC	0.054
Trichloroethene	0.3 E J	0.5 mg/L as D040, None if F-listed, or 0.054 as a UHC	F001	0.054

Note: SVOCs are also identified to be present as UHCs. See write-up below.

• **UHC** = Underlying Hazardous Constituent

**E** = Exceeded calibration limit for instrument.

J = Estimated Value

ND = Not Detected

- Based on a review of the inorganic analysis, antimony is the only constituent rejected during data validation and determined to be unusable. Since the rejected value is below the underlying hazardous constituent concentration, it is listed here for informational purposes.
- Based on a review of the volatile organic analysis, chloromethane is the only constituent rejected during data validation and determined to be unusable. Since the rejected value is below the underlying hazardous constituent concentration, it is listed here for informational purposes
- The detection limits for a majority of the SVOCs, except for bis(2-ethylhexyl) phthalate and pyrene, were above the wastewater treatment standards. However, since this waste Will not be re-analyzed, the following SVOCs are also assumed to be present at the detection limit value (See attached tables for concentration) and are

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identified as UHCs: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,I)perylene. Benzo(k)fluoranthene, Butylbenzylphthalate, Bis (2-chloroethoxy) methane, Bis (2chloroethyl) ether, Bis (2-chloroisopropyl) ether, 4-Bromophenyl-phenylether, Chrysene, 4-Chloroaniline, 4-Chloro-3-Methylphenol, 2-Chloronaphthalene, 2-Chlorophenol, Dibenz(a,h)anthracene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene 1,4-Dichlorobenzene, 3,3-Dichlorobenzidine, 2,4-Dichlorophenol, Diethylphthalate, 2,4-Dimethylphthalate, Di-n-butylphthalate, Di-n-octylphthalate, 2,4-Dinitrophenol, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorocyclopentadiene, Hexachloroethane, Indeno(1,2,3-cd) pyrene, 2-Methylphenol, 4-Methylphenol, Napthalene, 2-Nitroaniline, 4-Nitroaniline, Nitrobenzene, 2-Nitrophenol, 4-Nitrophenol, N-nitroso-dimethylamine, N-nitroso-din-propylamine, N-nitrosodiphenylamine, Pentachlorophenol, Phenanthrene, Phenol, Pyrene, Pyridine, 1,2,4-Trichlorobenzene, 2,4,5-Trichlorophenol, and 2,4,6-Trichlorophenol.. Three of the SVOC constituents (2,4-Dinitrotoluene, Hexachlorobenzene, and Hexachlorobutadiene) also had detection limit above the toxicity characteristic levels. LDR guidance suggests that in cases where detection limits are above either the characteristic limit or treatment standards, the generator may use his knowledge of the waste, in lieu of analytical results, to certify that the constituent(s) are not present in the waste. However, this waste will not be reanalyzed for 2,4-Dinitrotoluene, Hexachlorobenzene, and Hexachlorobutadieneand it is assumed that these constituents are present at the detection limit value (as identified

• Based on a review of the analytical data provided by INEEL, this waste is considered a hazardous waste based on the presence of Trichloroethene as an F-listed constituent, and characteristic, which must be treatment to meet the land disposal restrictions.

#### Recommendation:

If this waste will not be treated on-site, the waste acceptance criteria of possible offsite treatment facilities should also be considered.

INEEL V-2 Liquids, VOC Analysis

					Comments																										
LDR	Treatment	Standard for	-uou	wastewater	in mg/kg			160				10			15			15		Ļ	15				36			4.8 mg/l		9	
	LDR	Treatment	Standard for	wastewater	l/gm ui			0.28				0.14			0.35			0.63			0.11		-		0.28			3.8		0.057	
			Applicable	RCRA Waste	Code			UHC				D018 or UHC			UHC			UHC		<u> </u>	OHC				D035 or UHC			OHC		OHC	
			Applicable	Regulatory	Limit	Treatment	standard limit if	UHC	0.5 mg/l (D018)	or treatment	standard limit if	UHC	Treatment	standard limit if	UHC	Treatment	standard limit if	OHC	Treatment	standard limit if	OHC	200 mg/l (D03E)	or treatment	standard limit if	OHC	Treatment	standard limit if	OHC	Treatment	standard limit if	
				Concentration	mg/L			U (0.01) J				U (0.01) J	-		U (0.01) J			U (0.01) J			U (0.01) J				U (0.01) J			U (0.01) J		L (10.0) U	- /: -: - / -
					Constituents			Acetone				Benzene			Bromodichloromethane		Bromoform	(Tribromomethane)		:	Bromomethane				2-Butanone (MEK)			Carbon disulfide		Carbon tetrachloride	

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value R = Result rejected during validation and unusable. E = Exceeded calibration range of instrument.

# INEEL V-2 Liquids, VOC Analysis

				LDR	LDR Treatment Standard for	
Constituents	Concentration mg/L	Applicable Regulatory Limit	Applicable RCRA Waste Code	Standard for wastewater in mg/l	non- wastewater in mg/kg	Comments
Chlorobenzene	U (0.01) J	100 mg/l (D021) or treatment standard limit if UHC	D021 or UHC	0.057		
Chloroethane	U (0.01) J	Treatment standard limit if UHC	UHC	0.27	9	
Chloroform	U (0.01) J	6 mg/l (D022) or treatment standard limit if UHC	D022 or UHC	0.046	. 9	
Chloromethane	0.01 R	Treatment standard limit if UHC	UHC	0.19	30	Since this value was rejected, it will have to be re-analyzed to determine concentration in the waste.
Dibromochloromethane (Chlorodibromomethane)	U (0.01) J	Treatment standard limit if UHC	UHC	0.057	15	
1,1-Dichloroethane	0.036 J	Treatment standard limit if UHC	UHC	0.059	9	
1,2-Dichloroethane	U (0.01) J	0.5 mg/l (D028), or treatment standard limit if UHC	D028 or UHC	0.21	9	

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value R = Result rejected during validation and unusable. E = Exceeded calibration range of instrument.

INEEL V-2 Liquids, VOC Analysis

					Comments				The 0.37 mg/L concentration exceeds the	ww treatment standards and is therefore a	UHC.																			
LDR	<b>Treatment</b>	Standard for	-uou	wastewater	in mg/kg			9			30			18			18			18			10	42	3		33		30	
	LDR	Treatment	Standard for	wastewater	in mg/l			0.025			0.054			0.85			0.036			0.036			0.057				0.14		0.089	
			Applicable	RCRA Waste	Code			D029 or UHC			OHC			UHC			UHC			UHC			CHC	ΔN			UHC		OHC	
			Applicable	Regulatory	Limit	0.7 mg/l (D029)	or treatment	Standard Illum III	Treatment	standard limit if	UHC	Treatment	standard limit if	UHC	Treatment	standard limit if	UHC	Treatment	standard limit if	UHC	Treatment	standard limit if	OHC	Ø Z	Treatment	standard limit if	OHC	Treatment	standard limit if UHC	
				Concentration	mg/L			U (0.01) J			0.37 EJ			U (0.01) J			U (0.01) J			U (0.01) J			U (0.01) J	1 (0 0/1)	0 (10:0) 0		U (0.01) J		U (0.01) J	
					Constituents			1.1-Dichloroethene		trans-1,2-	Dichloroethene			1,2-Dichloropropane			cis-1,3-Dichloropropene		trans-1,3-	Dichloropropene			Ethylbenzene	2-Hexanone (Methyl n-	Sary werene)	4-Methyl-2-pentanone	(MIK)		Methylene chloride	

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

R = Result rejected during validation and unusable. E = Exceeded calibration range of instrument.

INEEL V-2 Liquids, VOC Analysis

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		Comments													0.3 mg/L is below the characteristic limit,	but exceeds the wastewater treatment standard. Therefore it is a UHC.				
Treatment	Standard for non- wastewater	in mg/kg	NA	ď	٥		9		Ç	01		9		9		9			9	NA
	Treatment Standard for wastewater	l/gm ui	ΑN	0.067	20.0		0.056		o C	000		0.054		0.054		0.054			0.27	NA
	Applicable RCRA Waste	Code	NA	OH!	2		D039 or UHC		<u>C</u>	שבח		UHC		OHC		F001			D043 or UHC	AA
	Applicable Regulatory	Limit	AN	Treatment standard limit if	210	0.7 mg/l (D039) or treatment	standard limit if UHC	Treatment	standard limit if	שבט	Treatment standard limit if	UHC	Treatment standard limit if	UHC		None if listed	0.2 mg/l (D043),	orTreatment standard limit if	UHC	NA
	Concentration	mg/L	U (0.01) J	1 (60 0) 11	0 (10.0)		U (0.01) J		1 (0 04)	U (10.01) J		U (0.01) J		U (0.01) J		0.3 E J			0.02	U (0.01) J
		Constituents	Styrene	1,1,2,2- Totrachlorosticae	I eu aoi iioi deu iai le		Tetrachloroethene		Cocilot	e Janet		1,1,1-Trichlcroethane		1,1,2-Trichloroethane		Trichloroethene			Vinyl chloride	Xylene (ortho)

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
R = Result rejected during validation and unusable.
E = Exceeded calibration range of instrument.

INEEL V-2 Liquids, VOC Analysis

					ents			
					Comments			
LDR	Treatment	Treatment   Standard for	-uou	wastewater	in mg/kg			30
	LDR	Treatment	Standard for non-	RCRA Waste   wastewater   wastewater	l/bm ui			0.32
			Applicable	RCRA Waste	Code			UHC
			Applicable	Regulatory	Limit	Treatment	standard limit if	UHC
				Concentration	mg/L			U (0.01) J
					Constituents		Xylene (total meta and	para)

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

R = Result rejected during validation and unusable. E = Exceeded calibration range of instrument.

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INEEL V-2 Liquids, SVOC Analysis

		Comments	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.			1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.
LDR Treatment Standard for	non- wastewater	in mg/kg		3.4		3.4		3.4		3.4		3.4		6.8		1.8		6.8	ΑN	ΝΑ		28		7.2		9		7.2
LDR Treatment	Standard for wastewater	in mg/l		0.059		0.059		0.059		0.059		0.061		0.11		0.0055		0.11	NA	NA		0.017		0.036		0.033		0.055
	Applicable RCRA Waste	Code		OHC		UHC		OHC		UHC		UHC		OHC		OHC		OHC	٩	NA		UHC		OHC		OHC		UHC
	Applicable Regulatory	Limit	UHC Treatment	Standard	None	None	UHC Treatment	Standard																				
	Concentration	mg/L		U (1)	U (1)	U (1)		U (1)		U (1)		U (1)		U (1)														
		Constituents		Acenaphthene		Acenaphthylene		Anthracene		Benzo (a) anthracene		Benzo (a) pyrene		Benzo (b) fluoranthene		Benzo (g,h,l) perylene		Benzo (k) fluoranthene	Benzoic acid	Benzyl alcohol		Butylbenzylphthalate	Bis (2-	chloroethoxy)methane		Bis (2-chloroethyl)ether		Bis (2-chloroisopropyl) ether

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

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INEEL V-2 Liquids, SVOC Analysis

				atment	OHC.	d the	ard.		d the	ard.	d the	ard.	d the	ard.	d the	ard.		d the	ard.	d the	ard.		d the	ard.	d the	ard.	d d d	ard.
			Comments	Concentration is below both treatment	standards, therefore it is not a UHC	1 mg/L detection limits exceed the	wastewater treatment standard.		1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard	1 mg/L detection limits exceed the	wastewater treatment standard	1 mg/L detection limits exceed the	wastewater treatment standard		1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.		1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 ma/l detection limits exceed the	wastewater treatment standard
LDR Treatment	Standard for	non- wastewater	in mg/kg		28		15	NA		3.4		16		14		5.6	NA		5.7		8.2	NA		9		9		9
LDR	Treatment	Standard for wastewater	l/gm ui		0.28		0.055	NA		0.059		0.46		0.018		0.055	NA		0.044		0.055	NA		0.088		0.036		0.09
		Applicable RCRA Waste	Code		OHC		OHC	NA		OHC		UHC		UHC		UHC	N		UHC		UHC	NA		UHC		CHC		D027, UHC
		Applicable Regulatory	Limit	UHC Treatment	Standard	UHC Treatment	Standard	None	UHC Treatment	Standard	UHC Treatment	Standard	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	None	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	None	UHC Treatment	Standard	<b>UHC Treatment</b>	Standard	7.5 (D027), UHC Treatment	Standard
		Concentration	mg/L		0.2 J		U (1)	U (1)		U (1)		U (1)		U (1)		U (1)	U (1)		U (1)		U (1)	U (1)		U (1)		U (1)		U (1)
			Constituents		Bis (2-ethylhexyl) phthalate		4-Bromophenyl-phenylether	Carbozole (or Carbazole)		Chrysene	4-Chloroaniline (p-	chloroaniline)	4-Chloro-3-Methylphenol (p-	chloro-m-cresol)		2-Chloronaphthalene	4-Chlorophenyl-phenylether		2-Chlorophenol		Dibenz(a,h)anthracene	Dibenzofuran	1,2-Dichlorobenzene (o-	dichlorobenzene)	1,3-Dichlorobenzene (m-	dichlorobenzene)	1 4-Dichlorobenzene (n-	dichlorobenzene)

U = Not Detected (Detection limit in parenthesis).

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J = Estimated Value

INEEL V-2 Liquids, SVOC Analysis

Comments	1 mg/L detection limits exceed the wastewater treatment standard.	1 mg/L detection limits exceed the wastewater treatment standard.	1 mg/L detection limits exceed the wastewater treatment standard.	1 mg/L detection limits exceed the wastewater treatment standard.	1 mg/L detection limits exceed the wastewater treatment standard.	1 mg/L detection limits exceed the wastewater treatment standard.	1 mg/L detection limits exceed the wastewater treatment standard.		5 mg/L detection limits exceed the wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.  1 mg/L detection limits exceed the	wastewater treatment standard.  1 mg/L detection limits exceed the	wastewater treatment standard.	wastewater treatment standard.
LDR Treatment Standard for non- wastewater in mg/kg	8.2	14	28	41	28	28	28	ΑN	160		140	58	3.4	3.4
LDR Treatment Standard for wastewater in mg/l	0.055	0.044	0.2	0.036	0.047	0.057	0.017	ΑN	0.12		0.32	0.55	0.068	0.059
Applicable RCRA Waste Code	OHC	UHC	OHC	OHC	OHC	OHC	UHC	Ą	OHC		D030, UHC	OHC	OHC	UHC
Applicable Regulatory Limit	UHC Treatment Standard	None	UHC Treatment Standard	0.13 mg/L (D030), UHC Treatment	Standard UHC Treatment	Standard UHC Treatment	Standard IHC Treatment	Standard						
Concentration mg/L	U (1)	U (5)	U (5)		U (1)	U (1)	U (1)	U (1)						
Constituents	3,3-Dichlorobenzidine (Dibenz (a,h) anthracene)	2,4-Dichlorophenol	Diethylphthalate	2,4-Dimethylphenol	Dimethylphthalate	Di-n-butylphthalate	Di-n-octylphthalate	4,6-Dinitro-2-methylphenol	2,4-Dinitrophenol		2,4-Dinitrotoluene	2,6-Dinitrotoluene	Fluoranthene	Fluorene

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

INEEL V-2 Liquids, SVOC Analysis

				exceed the	standard.		exceed the	standard.	exceed the	standard.		exceed the	standard.	exceed the	standard.				exceed the	standard.	xceed the	standard.	exceed the	standard.	
		Comments		1 mg/L detection limits exceed the	wastewater treatment standard		1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.		1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard				1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	1 mg/L detection limits exceed the	wastewater treatment standard.	
LDR Treatment Standard for	non- mastewater	in mg/kg			10		(	9.6		2.4		1	30		3.4	NA	NA		Ç.	0.0		5.6		5.6	
LDR	Standard for wastewater	in mg/l			0.055		1	0.055		0.057		1	0.055	1	0.0055	NA	NA		7	0.		0.77		0.059	
	Applicable RCRA Waste	Code			D032, UHC			D033, UHC		UHC			D034, UHC		UHC	NA	NA		0111	DUZS, UHC		D025, UHC		UHC	
	Applicable Regulatory	Limit	0.13 (D032),	UHC Treatment	Standard	0.5 (D033)UHC	Treatment	Standard	UHC Treatment	Standard	3.0 mg/L (D034),	UHC Treatment	Standard	<b>UHC</b> Treatment	Standard	None	None	200 mg/L, UHC	reatment	Standard	200 mg/L, UHC	Standard	UHC Treatment	Standard	
	Concentration	mg/L			U (1)			U (1)		U (1)			U (1)		U (1)	U (1)	U (1)		3	(1)		U (1)		U (1)	
		Constituents			Hexachlorobenzene		Hexachlorobutadiene	(Hexachloro-1,3-butadiene		Hexachlorocyclopentadiene			Hexachloroethane	:	Indeno (1,2,3-cd) pyrene	Isophorone	2-Methylnaphthalene			Z-Metnylphenol (o-cresol)		4-Methylphenol (p-cresol)		Naphthalene	

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-2 Liquids, SVOC Analysis

U (5) None UHC Treatment U (5) Standard U (1) Standard U (1) Standard U (1) Standard U (1) Standard U (2) Standard U (1) Standard U (2) Standard U (3) Standard U (4) Standard U (5) Standard U (6) Standard U (7) Standard U (7) Standard U (8) Standard U (1) Standard		Applicable RCRA Waste Code	Treatment Standard for wastewater in mg/l	Standard for non- wastewater in mg/kg	Comments
UHC Treatment Standard 2.0 (D036) or U(1) Standard U(2) Standard U(3) Standard U(4) Standard U(1) Standard U(1) Standard U(1) Standard U(1) Standard U(1) Standard U(1) Standard			NA	NA	
2.0 (D036) or UHC Treatment U (1) Standard U (1) Standard U (5) Standard U (5) Standard U (1) Standard U (2) Standard U (3) Standard U (4) Standard U (5) Standard U (6) Standard U (7) Standard U (7) Standard U (8) Standard U (9) Standard U (1) Standard	U (5)		0.028	28	5 mg/L detection limits exceed the wastewater treatment standard.
U (1) Standard U (1) Standard U (5) Standard U (6) Standard U (1) Standard U (2) Standard U (3) Standard U (4) Standard U (5) Standard U (5) Standard U (6) Standard U (7) Standard U (7) Standard U (1) Standard			890	7	1 mg/L detection limits exceed the
U (1) Standard U (5) Standard U (1) Standard U (2) Standard U (3) Standard U (5) Standard U (5) Standard U (6) Standard U (7) Standard U (1) Standard U (1) Standard U (1) Standard			0000	+	1 mg/L detection limits exceed the
U (5) Standard U (1) Standard U (2) Standard U (3) Standard U (5) Standard U (5) Standard U (6) Standard U (7) Standard U (7) Standard U (1) Standard U (1) Standard U (1) Standard			0.028	13	wastewater treatment standard.
U (1) Standard 100 mg/L (D037), UHC Treatment U (5) Standard U (5) Standard U (6) Standard U (7) Standard U (1) Standard U (1) Standard U (1) Standard			0.40	OC.	5 mg/L detection limits exceed the
U (1) Standard 100 mg/L (D037), UHC Treatment U (5) Standard U (5) Standard U (1) Standard U (1) Standard U (1) Standard			0.12	67	wastewater treatment standard.
U (1) Standard U (1) Standard U (1) Standard 100 mg/L (D037), UHC Treatment U (5) Standard U (5) Standard U (1) Standard	U (1)		0.4	2.3	1 mg/L detection limits exceed the wastewater treatment standard.
UHC Treatment U (1) Standard 100 mg/L (D037), UHC Treatment U (5) Standard U (1) Standard U (1) Standard	U (1)		0.4	14	1 mg/L detection limits exceed the wastewater treatment standard.
U (5) Standard 100 mg/L (D037), UHC Treatment U (5) Standard U (1) Standard U (1) Standard	11 (4)		c	ç	1 mg/L detection limits exceed the
100 mg/L (D037), UHC Treatment U (5) Standard UHC Treatment U (1) Standard UHC Treatment	(1)	200	0.32	2	wastewater treatment standard.
U (5) Standard UHC Treatment U (1) Standard UHC Treatment	100 mg/L (D037), UHC Treatment				5 ma/L detection limits exceed the
U (1) Standard UHC Treatment U (1) UHC Treatment			0.089	7.4	wastewater treatment standard.
U (1) Standard UHC Treatment					1 mg/L detection limits exceed the
UHC Treatment			0.059	5.6	wastewater treatment standard.
Ctandard   Ctandard	UHC Treatme	It	0.00	6.3	1 mg/L detection limits exceed the
Stalldald			0.039	7.0	wastewater treatment standard.
DVrene U(1) Standard UHC			0.067	8.2	<ol> <li>mg/L detection limits exceed the wastewater treatment standard.</li> </ol>

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-2 Liquids, SVOC Analysis

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					Comments		1 mg/L detection limits exceed the	wastewater treatment standard.		1 mg/L detection limits exceed the	wastewater treatment standard.		5 mg/L detection limits exceed the	wastewater treatment standard.		mg/L detection limits exceed the	wastewater treatment standard.
							1 mg/L det	wastewat		1 mg/L det	wastewat		5 mg/L det	wastewat		1 mg/L det	wastewat
LDR	Treatment	Standard for	-uou	wastewater	in mg/kg			16	NA		19			7.4			7.4
	LDR	Treatment	Standard for	wastewater	l/gm ui			0.014	NA		0.055			0.18			0.035
			Applicable	RCRA Waste	Code			D038 or UHC	ΥN		OHC			D041, UHC			D042, UHC
			Applicable	Regulatory	Limit	5.0 (D038) or	UHC Treatment	Standard	None	UHC Treatment	Standard	44 (D041), UHC	Treatment	Standard	2 (D042), UHC	Treatment	Standard
				Concentration	mg/L			U (1)	NA		U (1)			U (5)			U (1)
					Constituents			Pyridine	Tributylphosphate		1,2,4-Trichlorobenzene			2,4,5-Trichorophenol			2,4,6-Trichlorophenol

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

INEEL V-2 Liquid, Inorganic Analysis

					Comments		This detected concentration was rejected.	Therefore, waste must be re-analyzed to																		
LDR	Treatment	Standard for	-uou	wastewater	in mg/kg	VΑ	, ,	1.15 mg/L TCI P	į	// ban 0 3	3.0 IIIg/L	ICLP		21 mg/L	TCLP	1.22 mg/L	TCLP	WA	0.11 mg/L	TCLP	ΑN		0.60 mg/L	TCLP	NA	NA
	LDR	Treatment	Standard for	wastewater	in mg/L	ΑN		9	2		*	1.4			1.2		0.82	AN		69.0	ΝA			2.77	NA	NA
			Applicable	<b>RCRA Waste</b>	Code	ΑN		ÜHI	2		7000	D004, UHC			D005, UHC		UHC	NA	-	D006, UHC	NA			D007, UHC	NA	NA
			Applicable	Regulatory	Limit	NA		UHC Treatment	Displication -	5.0 (D004), UHC	ובשווובווו	Standard	100 mg/l (D005)	UHC Treatment	Standard	UHC Treatment	Standard	ΝΑ		1.0 (D0006), UHC	ΑN	5 (D007), UHC	Treatment	Standards	VΝ	NA
				Concentration	mg/L	U (0.2)		0.215.0	2017.0			0.005 B			U (0.163) B J		U (0.0036) B	2.17		U (0.0044)	6.49			U (0.039)	U (0.033)	U (0.01)
					Constituents	Aluminum		Antimony	Zurenion y			Arsenic			Barium		Beryllium	Boron		Cadmium	Calcium			Chromium	Cobalt	Copper

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
B = Reported value is > to instrument detection limit but < contract required detection limit.
N = Spiked Sample recovery not within control limits.
R = Result rejected.

INEEL V-2 Liquid, Inorganic Analysis

					Comments																								
LDR	Treatment	Standard for	-uou	wastewater	in mg/kg	NA		0.75 mg/L	TCLP	NA	ΑN		0.025 mg/L	TCLP	11 mg/L	TCLP	NA	5.7 mg/L	TCLP	NA		0.14 mg/L	TCLP	NA	0.2 mg/L	TCLP	NA	ΝΑ	NA
	LDR	Treatment	Standard for	wastewater	in mg/L	ΨN			69.0	VN	ΝA			0.15		3.98	NA	,	0.82	NA			0.43	NA		1.4	AN	ΑN	NA
			Applicable	RCRA Waste	Code	NA			D008, UHC	NA	ΑN			D009, UHC		OHC	NA		D010	NA			D011, UHC	ΝΑ		OHC	ΑN	ΝΑ	NA
			Applicable	Regulatory	Limit	VΑ	5.0 (D0008), UHC	Treatment	Standard	VΝ	ΝΑ	0.2 (D009), UHC	Treatment	Standard	UHC Treatment	Standard	NA		1 (D010)	NA	5 (D011), UHC	Treatment	Standard	AA	UHC Treatment	Standard	NA	AN	NA
				Concentration	mg/L	0.437			U (0.0036) N	14.6	0.475			U (0.001)		0.457	276		U (0.005) J	7.7			U (0.0024)	408		U (0.004) J	ΑN	U (0.0486) B	0.164
					Constituents	lron			Lead	Magnesium	Manganese			Mercury		Nickel	Potassium		Selenium	Silicon			Silver	Sodium		Thallium	Tin	Vanadium	Zinc

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value

B = Reported value is > to instrument detection limit but < contract required detection limit.</li>
 N = Spiked Sample recovery not within control limits.
 R = Result rejected.

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INEEL V-2 Liquid, Miscellaneous Analysis

L LDR	LDR Treatment	Treatment Standard for	cable Applicable Standard for non-	atory RCRA Waste   wastewater   wastewater	nit Code in mg/L in mg/kg Comments	ne NA NA NA	Wastewater is defined as < 1% TOC and < 1%	% NA NA TSS.	A NA NA NA	Wastewater is defined as < 1% TOC and < 1%	% NA NA TSS.	AN AN AN						
			Applicable App		Limit		None	None	None	None	None	None		< 1%	NA		<1%	None
				Concentration	mg/L	1.22	136	U (5)	U (2)	U (4)	23.3	18		105	74.2		26.7	11(1)
					Constituents	Bromide	Chloride	Fluoride	Nitrate	Nitrite	Phosphate	Sulfate		Total Organic Carbon	Total Halides		Total Suspended Solids	Oil & Greace

U = Not Detected (Detection limit in parenthesis). TOC = 105 mg/L = 2.67 E-3% which is < 1%. Therefore, liquid phase is considered a wastewater.

INEEL V-2 Liquids, PCB Analysis

					LDR	
				LDR	Treatment	
				Treatment	Treatment Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	TSCA/RCRA	wastewater	wastewater	
Constituents	mg/L	Limit	Waste Code	in mg/L	in mg/kg	Comments
Aroclor-1016	U (0.1)		None	NA	NA	
Aroclor-1221	U (0.2)	NA	ΨN	NA	NA	
Aroclor-1232	U (0.1)	ΑN	ΑN	NA	NA	
Aroclor-1242	U (0.1)	ΑN	ΨN	NA	NA	
Aroclor-1248	U (0.1)	ΑN	ΑN	NA	ΑN	
Aroclor-1254	U (0.1)	ΑN	ΥN	NA	NA	
Aroclor-1260	U (0.1)	NA	AN	NA	NA	
		50 mg/kg for TSCA_UHC				This waste is not regulated under TSCA and it
		Treatment				is below the UHC treatment standard level.
		Standard for				Therefore, no PCB treatment is required prior
Total Concentration	U (0.1)	RCRA	None	0.1	10	to disposal.

U = Not Detected (Detection limit in parenthesis)

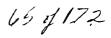
## 63 4172

# INEEL OU 1-10 Site TSF-09, Tank V-2 Preliminary Sludge Chemical Characterization Summary

- The sludge phase of the waste associated with this tank is considered a non-wastewater for purposes of complying with the Land Disposal Restrictions. This determination as well as the hazardous waste determination listed below is preliminary based on existing analytical data associated with this waste.
- Hazardous Waste Determination: Highest concentrations detected are reported.

The RCRA Waste codes that apply to this waste are as follows:

Constituent	Concentration Detected in Waste (mg/kg)	Regulatory Limit (mg/L)	Applicable Waste Code	LDR Treatment Standard for non- wastewater (mg/kg)
Antimony	1.3 mg/L (theoretical)	1.15	UHC	1.15 mg/L
Cadmium	1.2 mg/L	1.0 (0.11 as a UHC)	D006	0.11 mg/L
Chromium	0.76 mg/L	0.6 as UHC	UHC	0.6 mg/L
Nickel	46.2 mg/L (theoretical)	11	UHC	11 mg/L
Bis(2-ethyl hexyl) phthalate	1500-7000	28 mg/kg as a UHC	UHC	28
Chloroethane	ND @ 10	6 mg/kg	UHC	6
1,2- Dichlorobenzene	30 J	None if F- listed, or 6 mg/kg as a UHC	UHC	6
2,4-Dinitrotoluene	ND @ 170 or 8.5 mg/L (theoretical)	0.13	D030	140
Hexachloroethane	ND @ 170 or 8.5 mg/L (theoretical)	3.0	D034	30
Pentachlorophenol	ND @ 870 or 43.5 mg/L (theoretical)	100	D037	7.4
Pyridine	ND @ 170 or 8.5 mg/L (theoretical)	5.0	D038	16
Tetrachloroethene	510 J ( TCLP 2.387 mg/L)	0.7 mg/L as a D039, None if F- listed, or 6 as a UHC	D039	6
Trichloroethene	5.9 J D (TCLP 0.7 mg/L J D)	0.5 mg/L as a D040, None if F- listed, or 6 as a UHC	F001	6
Vinyl Chloride	ND @ 0.6 or ND @ 0.5 mg/L	0.2	D043	6
Total PCB Concentration	260 D	50 mg/kg for TSCA and UHC Treatment	TSCA Regulated and UHC	< 50 for TSCA and10 for RCRA



Standard for	
RCRA	

Note: SVOCs are also identified to be present as UHCs. See write-up below.

• **UHC** = Underlying Hazardous Constituent.

**D** = Dilution factor of 1000, Dilution factor of 50 for TCLP analysis, and Dilution factor of 10 for PCB analysis.

J = Estimated Value.

ND = Not Detected

- The inorganic analysis performed on the sludge phase of this waste was reported in a total concentration (mg/kg) and in a TCLP extract concentration (mg/L). Although high total concentrations are reported in this waste, the TCLP extract concentrations are typically below the regulatory limits as a characteristic waste. For the other inorganic analyses identified as UHCs, only total concentrations are reported. Therefore, to evaluate the regulatory status of these constituents in this solid, the total constituent concentration is divided by 20, creating the maximum theoretical leachate concentration (as referenced in the table above), which is then compared to the applicable regulatory limit. The division factor reflects the 20-to-1 ratio of extraction fluid to solid used in the TCLP test method.
- Chloroethane reported a detection limit of 10 mg/kg, however the non-wastewater treatment standard is 6 mg/kg. LDR guidance suggests that in cases where detection limits are above either the characteristic limit or treatment standards, the generator may use his knowledge of the waste, in lieu of analytical results, to certify that the constituent(s) are not present in the waste. However, since this waste will not be reanalyzed for Chloroethanethis constituent is assumed to be present in the waste at the detection limit value.

Trichloroethene was detected at 0.7 mg/L based on TCLP analysis. This concentration exceeds the characteristic limit. However, the LDR non-wastewater treatment standard for Trichloroethene is 6 mg/kg, a total concentration value. The total concentration of Trichloroethene is 5.9 mg/kg, albeit an estimated value, which is below the non-wastewater treatment standard value of 6 mg/kg. Since the total concentration is an estimated value based on the laboratory reporting values for this constituent, Trichloroethene is conservatively identified as requiring LDR treatment.

Vinyl chloride was not detected in the sludge at 0.6 mg/kg and at 0.5 mg/L based on TCLP analysis. The characteristic limit for vinyl chloride is 0.2 mg/L. The TCLP detection limit exceeds this characteristic limit, therefore it is uncertain if this waste exceeds the toxicity characteristic based on TCLP analysis. However, the treatment standard for vinyl chloride, either as a toxicity characteristic or as an underlying hazardous constituent (UHC), is 6 mg/kg and vinyl chloride was not detected at 0.6 mg/kg. Based on this information vinyl chloride is conservatively assumed to be present as a characteristic constituent, however no treatment for purposes of complying with the Land Disposal Restrictions (LDRs) would be required.

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09/28/01

- The detection limits for a majority of the SVOCs were above the non-wastewater treatment standards, as well as the characteristic limits for several constituents. Again as previously stated, LDR guidance suggests that in cases where detection limits are above either the characteristic limit or treatment standards, the generator may use his knowledge of the waste, in lieu of analytical results, to certify that these constituents are not present in the waste. However, since this waste will not be re-analyzed for these constituents, the following SVOCs are also assumed to be present in the waste at the detection limit value(see attached tables for concentrations) and are identified as underlying hazardous constituents (The table above identifies only those SVOCs with detection limits exceeding characteristic limits.): Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,I)perylene, Benzo(k)fluoranthene, Butylbenzylphthalate, Bis (2-chloroethoxy) methane, Bis (2-chloroethyl) ether, Bis (2-chloroisopropyl) ether, 4-Bromophenyl-phenylether, Chrysene, 4-Chloroaniline, 4-Chloro-3-Methylphenol, 2-Chloronaphthalene, 2-Chlorophenol, Dibenz(a,h)anthracene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 3,3-Dichlorobenzidine, 2,4-Dichlorophenol, Diethylphthalate, 2,4-Dimethylphthalate, Di-n-butylphthalate, Di-n-octylphthalate, 2,4-Dinitrophenol, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachlorocyclopentadiene, Indeno(1,2,3-cd)pyrene, 2-Methylphenol, 4-Methylphenol, Napthalene, 2-Nitroaniline, 4-Nitroaniline, Nitrobenzene, 2-Nitrophenol, 4-Nitrophenol, N-nitroso-dimethylamine, N-nitroso-din-propylamine, N-nitrosodiphenylamine, Phenanthrene, Phenol, Pyrene, 1,2,4-Trichlorobenzene, 2,4,5-Trichlorophenol, and 2,4,6-Trichlorophenol.
- Based on a review of the analytical data provided by INEEL, this waste is considered
  both characteristic, with underlying hazardous constituents and a listed hazardous
  waste as well as TSCA regulated due to the presence of PCBs > 50 ppm. This waste
  requires incineration based on 40 CFR 761 for the presence of PCBs and any form of
  thermal treatment for the presence of the organic constituents, followed-by
  stabilization of the ash for the inorganic constituents.

### • Recommendation:

Since this waste will require some form of thermal treatment due to the presence of organics, the waste acceptance criteria of possible treatment facilities should also be considered.

Tank V-2

INEEL V-2 Sludge, VOC Analysis TSF-09, revision 1

					Comments																						
LDR	Treatment	Standard for	-uou	wastewater	in mg/kg			160				10			15			15			15				36		4.8 mg/L
	LDR	Treatment	Standard for	wastewater	in mg/L			0.28				0.14			0.35			0.63			0.11				0.28		3.8
			Applicable	RCRA Waste	Code			UHC				D018 or UHC			UHC			UHC			UHC				D035 or UHC		UHC
			Applicable	Regulatory	Limit	Treatment	standard limit if	OHC	0.5 mg/l (D018)	or treatment	standard limit if	OHC	Treatment	standard limit if	OHC	Treatment	standard limit if	UHC	Treatment	standard limit if	OHC	200 ma/l (D035)	or treatment	standard limit if	OHC	Treatment standard limit if	OHC
				Concentration	mg/kg			U (0.6) J		r (9:0) Ո	U (0.5) J D,	TCLP			บ (0.6) J			U (0.6) J			U (0.6) J				U (0.6) J		U (0.0) U
	_				Constituents			Acetone				Benzene			Bromodichloromethane		Bromoform	(Tribromomethane)			Bromomethane				2-Butanone (MEK)		Carbon disulfide

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
D = Dilution factor of 50 for TCLP analysis and 1000 for total analysis.

INEEL V-2 Sludge, VOC Analysis

TSF-05, . evision 1

		<del> </del>	Г <u></u>		T		
Comments			The 10 mg/kg detection limit exceeds the nww treatment standard.				
LDR Treatment Standard for non- wastewater in mg/kg	6	6	9	9	30	15	9
LDR Treatment Standard for wastewater in mg/L	0.057	0.057	0.27	0.046	0.19	0.057	0.059
Applicable RCRA Waste Code	D019 or UHC	D021 or UHC	UHC	D022 or UHC	UHC	UHC	OHC
Applicable Regulatory Limit	0.5 mg/L (D019) or treatment standard limit if UHC	100 mg/l (D021) or treatment standard limit if UHC	Treatment standard limit if UHC	6 mg/l (D022) or treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC
Concentration mg/kg	U (0.6) J U (0.5) J D, TCLP	U (0.6) J U (0.5) J D, TCLP	U (10)	U (0.6) J U (0.5) J D, TCLP	Ր (9:0) Ո	L (9.0) U	r (9:0) n
Constituents	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane (Chlorodibromomethane)	1,1-Dichloroethane

U = Not Detected (Detection limit in parenthesis).
J = Estimated Value
D = Dilution factor of 50 for TCLP analysis and 1000 for total analysis.

INEEL V-2 Sludge, VOC Analysis

Comments								
LDR Treatment Standard for non- wastewater in mg/kg	6	9	30	18	18	18	10	ΑN
LDR Treatment Standard for wastewater in mg/L	0.21	0.025	0.054	0.85	0.036	0.036	0.057	NA
Applicable RCRA Waste Code	D028 or UHC	D029 or UHC	UHC	UHC	UHC	UHC	UHC	NA
Applicable Regulatory Limit	0.5 mg/l (D028), or treatment standard limit if UHC	0.7 mg/l (D029) or treatment standard limit if UHC	Treatment standard limit if UHC	NA				
Concentration mg/kg	U (0.6) J U (0.5) J D, TCLP	U (0.6) J U (0.5) J D, TCLP	և (ծ.0) U	և (ծ.0) Ս	և (ծ.0) Ս	և (0.6) J	U (0.6) J	U (0.6) J
Constituents	1,2-Dichloroethane	1,1-Dichloroethene	trans-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3- Dichloropropene	Ethylbenzene	2-Hexanone (Methyl n- butyl ketone)

U = Not Detected (Detection limit in parenthesis).
J = Estimated Value
D = Dilution factor of 50 for TCLP analysis and 1000 for total analysis.

INEEL V-2 Sludge, VOC Analysis

TSF-05, , cevision 1

Comments					2.3 mg/L is below the characteristic limit. However, the 510 mg/kg concentration exceeds the nww treatment standard	Therefore, it may be either F-listed or a UHC, requiring treatment.			
LDR Treatment Standard for non- wastewater in mg/kg	33	30	NA	9		9	10	9	9
LDR Treatment Standard for wastewater in mg/L	0.14	0.089	NA	0.057		0.056	0.08	0.054	0.054
Applicable RCRA Waste Code	OHC	UHC	NA	UHC		D039 or UHC	UHC	UHC	UHC
Applicable Regulatory Limit	Treatment standard limit if UHC	Treatment standard limit if UHC	VΝ	Treatment standard limit if UHC	0.7 mg/l (D039) or treatment	standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC	Treatment standard limit if UHC
Concentration mg/kg	U (0.6) J	Ր (9:0) Ո	Ր (9.0) Ս	U (0.6) J	510 J	2.387 mg/L J D, TCLP	U (0.6) J	U (0.6) J	L (0.0) U
Constituents	4-Methyl-2-pentanone (MIK)	Methylene chloride	Styrene	1,1,2,2- Tetrachloroethane		Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane

U = Not Detected (Detection limit in parenthesis).
J = Estimated Value
D = Dilution factor of 50 for TCLP analysis and 1000 for total analysis.

INEEL V-2 Sludge, VOC Analysis

TSF-0<sub>5</sub>, evision 1

					LDR	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	in mg/L	in mg/kg	Comments
						0.7 mg/L exceeds the characteristic limit,
						however the total concentration is below
	2.9 J D					the non-wastewater treatment standard.
	0.7 mg/L J D,					Therefore no treatment is required
Trichloroethene	TCLP	None if listed	F001	0.054	9	regardless if it is D040, F002 or UHC.
						0.5 ma/l detection limit for TCI D avecade
						the characteristic limit of 0.2 mg/l
		0.2 mg/l (D043),				However, the 0.6 mg/kg detection limit is
	r (9:0) n	orTreatment				below the treatment standard. Therefore,
	U (0.5) J D,	standard limit if			•	no treatment would be required regardless
Vinyl chloride	TCLP	OHC	D043 or UHC	0.27	ဖ	if it is a D043 or a UHC.
Xylene (ortho)	r (9:0) Ո	ΝA	AN	ΑN	ΑN	
		Treatment				
Xylene (total meta and		standard limit if				
para)	L (9:0) U	OHC	OHC	0.32	30	

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
D = Dilution factor of 50 for TCLP analysis and 1000 for total analysis.

INEEL V-2 Sludge, SVOC analysis.

Concentration  Constituents  Acenaphthene  U (170)  Acenaphthylene  U (170)  Benzo (a) anthracene  U (170)  Benzo (b) fluoranthene  U (170)  Benzo (c) fluoranthene  U (170)  Benzo (c) fluoranthene  U (170)  U (170)					
Concentration mg/kg U (170)			LDR	Treatment	
Concentration mg/kg U (170)			Treatment	Standard for	
Concentration  mg/kg  U (170)	Applicable	Applicable	Standard for	non-	
U (170)	Regulatory	RCRA Waste	wastewater	wastewater	
U (170)	Limit	Code	in mg/l	in mg/kg	Comments
U (170)	UHC Treatment				170 mg/kg detection limit exceeds the nww
U (170)	Standard	OHC	0.059	3.4	treatment standard.
U (170)	UHC Treatment				170 mg/kg detection limit exceeds the nww
U (170)	Standard	UHC	0.059	3.4	treatment standard.
U (170) U (170) U (170) U (170) U (170) U (170) U (870)	UHC Treatment				170 mg/kg detection limit exceeds the nww
U (170) U (170) U (170) U (170) U (170) U (170)	Standard	UHC	0.059	3.4	treatment standard.
U (170) U (170) U (170) U (170) U (170) U (870)	UHC Treatment				170 mg/kg detection limit exceeds the nww
U (170) U (170) U (170) U (170) U (870)	Standard	UHC	0.059	3.4	treatment standard.
U (170) U (170) U (170) U (870)	UHC Treatment				170 mg/kg detection limit exceeds the nww
U (170) U (170) U (170) U (870)	Standard	UHC	0.061	3.4	treatment standard.
U (170) U (170) U (170) U (870)	UHC Treatment				170 mg/kg detection limit exceeds the nww
U (170) U (170) U (870)	Standard	UHC	0.11	6.8	treatment standard.
U (170) U (170) U (870)	UHC Treatment				170 mg/kg detection limit exceeds the nww
U (170) U (870)	Standard	OHC	0.0055	1.8	treatment standard.
	UHC Treatment				170 mg/kg detection limit exceeds the nww
	Standard	OHC	0.11	6.8	treatment standard.
	None	NA	ΑΝ	ΝΑ	
(0,0)	None	NA	ΑN	ΝΑ	
	UHC Treatment				170 mg/kg detection limit exceeds the nww
Butylbenzylphthalate U (170)	Standard	UHC	0.017	28	treatment standard.
Bis (2-	UHC Treatment				170 mg/kg detection limit exceeds the nww
chloroethoxy)methane U (170)	Standard	UHC	0.036	7.2	treatment standard.
	UHC Treatment				170 mg/kg detection limit exceeds the nww
Bis (2-chloroethyl)ether U (170)	Standard	CHC	0.033	9	treatment standard.
11 (470)	UHC Treatment	CHI	0.055	7.0	170 mg/kg detection limit exceeds the nww
bis (z-ciliololisopropyi) eulei O (170)	otalidalu	2	0.033	7:7	nearment standard.

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-2 Sludge, SVOC analysis.

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				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	ma/ka	Limit	Code	l/gm ui	in mg/kg	Comments
	G. G.					1500-7000 mg/kg concentration exceeds
Bis (2-ethylhexyl)		UHC Treatment				the nww treatment standard. Therefore
obthalate	1500-7000	Standard	UHC	0.28	28	this constituent is a UHC.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
4-Bromophenyl-phenylether	U (170)	Standard	OHC	0.055	15	treatment standard.
Carbozole (or Carbazole)		None	NA	NA	NA	
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Chrysene	U (170)	Standard	OHC	0.059	3.4	treatment standard.
4-Chloroaniline (p-		UHC Treatment				170 mg/kg detection limit exceeds the nww
chloroaniline)	U (170)	Standard	OHC	0.46	16	treatment standard.
4-Chloro-3-Methylphenol (p-	L	UHC Treatment				170 mg/kg detection limit exceeds the nww
chloro-m-cresol)	U (170)	Standard	OHC	0.018	14	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
2-Chloronaphthalene	U (170)	Standard	OHC	0.055	5.6	treatment standard.
-			\dagger \lambda	<b>₽</b>	ΔN	
4-Chlorophenyl-phenyletrier	0(1/0)	TOURS TO THE				170 mg/kg detection limit exceeds the nww
2-Chlorophenol	U (170)	Standard	OHC	0.044	5.7	treatment standard.
		<b>UHC Treatment</b>				170 mg/kg detection limit exceeds the nww
Dibenz(a.h)anthracene	U (170)	Standard	OHC	0.055	8.2	treatment standard.
Dibenzofiran	U (170)	None	NA	ΑN	ΑN	
	/ / )					30 mg/kg concentration exceeds the nww
						treatment standard. Therefore this
1.2-Dichlorobenzene (o-		<b>UHC Treatment</b>				constituent is a UHC or an F-listed
dichlorobenzene)	30 J	Standard	OHC	0.088	9	constituent.
1,3-Dichlorobenzene (m-		<b>UHC</b> Treatment			•	170 mg/kg detection limit exceeds the nww
dichlorobenzene)	U (170)	Standard	UHC	0.036	9	treatment standard.

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-2 Sludge, SVOC analysis.

					LDR	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	in mg/l	in mg/kg	Comments
		7.5 (D027), UHC				
1,4-Dichlorobenzene (p-		Treatment				170 mg/kg detection limit exceeds the nww
dichlorobenzene)	U (170)	Standard	D027, UHC	0.09	9	treatment standard.
3,3-Dichlorobenzidine		<b>UHC Treatment</b>				170 mg/kg detection limit exceeds the nww
(Dibenz (a,h) anthracene)	U (170)	Standard	UHC	0.055	8.2	treatment standard.
		<b>UHC Treatment</b>				170 mg/kg detection limit exceeds the nww
2,4-Dichlorophenol	U (170)	Standard	UHC	0.044	14	treatment standard.
		<b>UHC Treatment</b>				170 mg/kg detection limit exceeds the nww
Diethylphthalate	U (170)	Standard	UHC	0.2	28	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
2,4-Dimethylphenol	U (170)	Standard	UHC	0.036	14	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Dimethylphthalate	U (170)	Standard	UHC	0.047	28	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Di-n-butylphthalate	U (170)	Standard	OHC	0.057	28	treatment standard.
		<b>UHC Treatment</b>				170 mg/kg detection limit exceeds the nww
Di-n-octylphthalate	U (170)	Standard	UHC	0.017	28	treatment standard.
4,6-Dinitro-2-methylphenol	U (870)	None	NA	NA	NA	
		UHC Treatment				870 mg/kg detection limit exceeds the nww
2,4-Dinitrophenol	U (870)	Standard	OHC	0.12	160	treatment standard.
						170 mg/kg detection limit exceeds the nww
		0 13 mg/l				the arment standard. Using 170 mg/kg, the
		0.13 IIIg/L				illeoletical teachate value is 6.5 mg/L which
		(D030), UHC				exceeds the characteristic limit. Therefore,
2.4-Dinitrotoluene	U (170)	Standard	D030. UHC	0.32	140	this may be a characteristic constituent or a

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-2 Sludge, SVOC analysis.

					108	
				LDR	Treatment	
				Treatment	Standard for	
	:	Applicable	Applicable	Standard for	-uou	
Constituents	Concentration mg/kg	Regulatory Limit	KCKA Waste Code	wastewater in mg/l	wastewater in mg/kg	Comments
		UHC Treatment			)	170 mg/kg detection limit exceeds the nww
2,6-Dinitrotoluene	U (170)	Standard	OHC	0.55	28	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Fluoranthene	U (170)	Standard	UHC	0.068	3.4	treatment standard.
		<b>UHC</b> Treatment			2	170 mg/kg detection limit exceeds the nww
Fluorene	U (170)	Standard	UHC	0.059	3.4	treatment standard.
		0.13 (D032),				4 70 mm (1) m about a discillate is a large of the control of the
Hovachlorohenzene	11 (170)	OHC Treatment Standard	DU32 LIHC	0.055	7	170 mg/kg detection limit exceeds the nww treatment standard
	0(110)	0 5 (D033)(JHC	2002, 0110	200.0	2	ucamient standard.
Hexachlorobutadiene		Treatment				170 ma/kg detection limit exceeds the nww
(Hexachloro-1,3-butadiene	U (170)	Standard	D033, UHC	0.055	5.6	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Hexachlorocyclopentadiene	U (170)	Standard	UHC	0.057	2.4	treatment standard.
						170 mg/kg detection limit exceeds the nww
						treatment standard. Using 170 mg/kg, the
						theoretical leachate value is 8.5 mg/L which
		3.0 mg/L (D034),				exceeds the characteristic limit. Therefore,
		UHC Treatment				this may be a characteristic constituent or a
Hexachloroethane	U (170)	Standard	D034, UHC	0.055	30	UHC.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Indeno (1,2,3-cd) pyrene	U (170)	Standard	UHC	0.0055	3.4	treatment standard.
Isophorone	U (170)	None	NA	NA	NA	
2-Methylnaphthalene	67 J	None	NA	۷N	NA	
		200 mg/L or				170 ma/ka detection limit exceeds the max.
2-Methylphenol (o-cresol)	U (170)	standard	D023, UHC	0.11	5.6	treatment standard.

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-2 Sludge, SVOC analysis.

					LDR	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	non-	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	in mg/l	in mg/kg	Comments
		200 mg/L or UHC treatment				170 ma/ka detection limit exceeds the nww
4-Methylphenol (p-cresol)	U (170)	standard	D025, UHC	0.77	5.6	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Naphthalene	U (170)	Standard	UHC	0.059	5.6	treatment standard.
		UHC Treatment				870 mg/kg detection limit exceeds the nww
2-Nitroaniline (o-nitroaniline)	U (870)	Standard	UHC	0.27	14	treatment standard.
3-Nitroaniline (m-						
nitroaniline)	U (870)	None	NA	NA	NA	
		UHC Treatment				870 mg/kg detection limit exceeds the nww
4-Nitroaniline (p-nitroaniline)	U (870)	Standard	UHC	0.028	28	treatment standard.
		2.0 (D036) or				
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Nitrobenzene	U (170)	Standard	D036 or UHC	0.068	14	treatment standard.
2-Nitrophenol (o-		UHC Treatment				170 mg/kg detection limit exceeds the nww
nitrophenol)	U (170)	Standard	UHC	0.028	13	treatment standard.
4-Nitrophenol (p-		UHC Treatment				870 mg/kg detection limit exceeds the nww
nitrophenol)	U (870)	Standard	UHC	0.12	29	treatment standard.
		UHC Treatment				
N-nitroso-dimethylamine	AN	Standard	UHC	0.4	2.3	
N-nitroso-di-n-propylamine		<b>UHC</b> Treatment				170 mg/kg detection limit exceeds the nww
(Di-n-propylnitrosamine)	U (170)	Standard	UHC	0.4	14	treatment standard.
N-nitrosodiphenylamine		UHC Treatment				170 mg/kg detection limit exceeds the nww
(Diphenylnitrosamine)	U (170)	Standard	UHC	0.92	13	treatment standard.

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

INEEL V-2 Sludge, SVOC analysis.

TSF-05, , evision 1

					LDR	
				LDR	Treatment	
				Treatment	Standard for	
	Concentration	Applicable Regulatory	Applicable RCRA Waste	Standard for wastewater	non- wastewater	
Constituents	mg/kg	Limit	Code	in mg/l	in mg/kg	Comments
						870 mg/kg detection limit exceeds the nww
						treatment standard. Using 870 mg/kg, the
		100 mg/L				theoretical leachate value is 43.5 mg/L
		(D037), UHC				which exceeds the characteristic limit.
		Treatment				Therefore, this may be a characteristic
Pentachlorophenol	U (870)	Standard	D037, UHC	0.089	7.4	constituent or a UHC.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Phenanthrene	U (170)	Standard	UHC	0.059	5.6	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Phenol	U (170)	Standard	UHC	0.039	6.2	treatment standard.
		UHC Treatment				170 mg/kg detection limit exceeds the nww
Pyrene	U (170)	Standard	UHC	0.067	8.2	treatment standard.
						170 mg/kg detection limit exceeds the nww
						treatment standard. Using 170 mg/kg, the
						theoretical leachate value is 8.5 mg/L which
		5.0 (D038) or				exceeds the characteristic limit. Therefore,
: :	()	UHC Treatment	-		(	this may be a characteristic constituent or a
Pyridine	0(1/0)	Standard	DUSS OF UHC	0.014	91	UHC.
Tributylphosphate	ΑN	None	AA	ΑN	Ϋ́	
1,2,4-Trichlorobenzene	U (170)	UHC Treatment Standard	OHC	0.055	19	170 mg/kg detection limit exceeds the nww treatment standard.
		44 (D041), UHC Treatment				870 ma/ka detection limit exceeds the nww
2,4,5-Trichorophenol	U (870)	Standard	D041, UHC	0.18	7.4	treatment standard.
		2 (D042), UHC Treatment				170 ma/ka detection limit exceeds the max
2,4,6-Trichlorophenol	U (170)	Standard	D042, UHC	0.035	7.4	treatment standard.

U = Not Detected (Detection limit in parenthesis). J = Estimated Value

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INEEL V-2 Sludge, Inorganic Analysis

satment Industry Industry Industry S mg/k  I mg/L  I m	wastewater in mg/kg NA 1.15 mg/L TCLP 5.0 mg/L TCLP 1.22 mg/L TCLP NA 0.11 mg/L TCLP NA	Standard for wastewater in mg/L NA 1.2 1.2 0.82 NA NA NA NA NA NA	Applicable RCRA Waste Code NA UHC UHC UHC NA NA NA	5.   1.   1.   5.   5.   5.   5.   5.	25.9 B 18.5 B 0.0386), TCLP 187 187 187 12 J 22 72 J 1.2 1.4 1.2
	0.60 mg				
	0.00 III				
_	0.60 mg/L			Treatment	1680 0.76
	,			), (1000) v	
is below the characteristic limit, however				5 (D007), UHC	
USING U./ o mg/L concentration this wast				1	
	A	ΝΑ	NA	ΝΑ	00 D
	TCLP	0.69	D006, UHC		TCLP
	0.11 mg				1.2
	NA	ΝΑ	NA	NA	2 J
	TCLP	0.82	UHC	Standard	22
Г	1.22 mg			<b>UHC Treatment</b>	
a.	TCLP	1.2	D005, UHC	Standard	CLP
g/L	21 mg/			UHC Treatment	i mg/L
				100 mg/l (D005),	187
d.	TCLP	1.4	D004, UHC	Standard	CLP
g/L	5.0 mg/			lreatment	
	0			5.0 (D004), UHC	
	TCLP	1.9	OHC	Standard	İ
	1.15 mg			<b>UHC Treatment</b>	
	¥	ΑΝ	AN	AN	7570
	in mg/k	in mg/L	Code	Limit	g/kg
	wastewa	wastewater	RCRA Waste	Regulatory	ntration
	-101	Standard for	Applicable	Applicable	
rd for	2	וופסווופוור			
nent	Standard	Trootmont			
	Treatment Standard for	LDR			

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
B = Reported value is > to instrument detection limit but < contract required detection limit.
D = Dilution Factor of 10.

INEEL V-2 Sludge, Inorganic Analysis

TSF-05, , cevision 1

		-			Comments											Using 925 mg/kg, the theoretical leachate	value is 46.2 mg/L which is above the nww	treatment standard limt. This is a UHC.								Using 2.1 mg/kg, the theoretical leachate	treatment standard limt.		
LDR	Treatment	Standard for	-uou	wastewater	in mg/kg	ΝA	A A		0.75 mg/L	TCLP	ΑN	Ϋ́		0.025 mg/L	TCLP		11 mg/L	TCLP	AN	: !	5.7 mg/L TCLP	ΑN	0.14 mg/l	TCLP	ΑN	0.2 mg/l	TCLP	Ϋ́	
	LDR	Treatment	Standard for	wastewater	in mg/L	NA	AN			0.69	ΑN	Ϋ́			0.15			3.98	NA		0.82	ΑN		0.43	Ϋ́		1.4	ΑN	
			Applicable	RCRA Waste	Code	AN	ΑN			D008, UHC	AN	ΨN			D009, UHC			UHC	NA		D010	ΨN		D011, UHC	ΑN		OHC	ΑN	
			Applicable	Regulatory	Limit	AN	ΑN	5.0 (D0008), UHC		Standard	ΑN	ΑN	0.2 (D009), UHC	Treatment	Standard		<b>UHC Treatment</b>	Standard	NA		1 (D010)	ΑN	5 (D011), UHC	Standard	ΑN	UHC Treatment	Standard	ΨN	narenthesis)
				Concentration	mg/kg	926	22400		1550 0.052	mg/L, TCLP	7030 D	27100 D		0.00018 mg/L,	TCLP			925 J	5520 J	7.8 B U	(0.047) mg/L, TCLP		315 0.022	0.022 3/L. TCLP	2330 J		U (2.1)	NA	atention limit in
					Constituents	Copper	Iron			Lead	Magnesium	Manganese			Mercury			Nickel	Potassium		Selenium	Silicon		Silver	Sodium		Thallium	Tin	11 = Not Detected (Detection limit in parenthes

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
B = Reported value is > to instrument detection limit but < contract required detection limit.
D = Dilution Factor of 10.

INEEL V-2 Sludge, Inorganic Analysis

TSF-05, . evision 1

_							
					Comments		
LDR	Treatment	Treatment Standard for	-uou	wastewater	in mg/kg	NA	NA
	LDR	Treatment	Standard for	wastewater	in mg/L	NA	NA
			Applicable	RCRA Waste   wastewater   wastewater	Code	NA	NA
			Applicable	Regulatory	Limit	NA	NA
				Concentration	mg/kg	(9.76) U	4370 J
					Constituents	Vanadium	Zinc

U = Not Detected (Detection limit in parenthesis).

J = Estimated Value
B = Reported value is > to instrument detection limit but < contract required detection limit.
D = Dilution Factor of 10.

INEEL V-2 Sludge, Miscellaneous Analysis

					LDR	
				LDR	Treatment	
				Treatment	Standard for	
		Applicable	Applicable	Standard for	-uou	
	Concentration	Regulatory	RCRA Waste	wastewater	wastewater	
Constituents	mg/kg	Limit	Code	in mg/L	in mg/kg	Comments
Bromide	1.22	None	NA	ΑN	NA	
Chloride	136	None	Ν	ΑN	NA	
Fluoride	U (5)	None	NA	AN	۷N	
Nitrate	U (2)	None	ΑN	ΑN	VΝ	
Nitrite	(4) O	None	NA	AN	۷V	
Phosphate	21.1	None	AN	AN	NA	
Sulfate	186	None	NA	AN	NA	
						Wastewater is defined as < 1% TOC and < 1%
Total Organic Carbon	200,000	< 1%	NA	NA	NA	TSS.
Total Halides	1240	NA	NA	AN	NA	
						Wastewater is defined as < 1% TOC and < 1%
Total Suspended Solids	AN	<1%	NA	NA	NA	TSS.
Hd	6.7-8.7	$\leq 2$ or $\geq 12.5$	None	NA	NA	
Density	1.01-1.03					

U = Not Detected (Detection limit in parenthesis).

B = Not defined in INEEL.

NP = Analysis not performed.

TOC = 200000 mg/kg = 20 %, which is > 1%. This sludge is considered a non-wastewater.

INEEL V-2 Sludge, PCB Analysis

PCBs.	10	0.1	None	RCRA	260 D	Total Concentration
incinerated prior to disposal for purposes of				Standard for		
level. Therefore, this waste must be				Treatment		
may be subject to the UHC treatment standard				TSCA, UHC		-
This waste is regulated under TSCA and it				50 mg/kg for		
	NA	NA	NA	NA	260 D	Aroclor-1260
	NA	NA	NA	AN	U (13)	Aroclor-1254
	NA	NA	NA	NA	U (13)	Aroclor-1248
	NA	NA	NA	NA	U (13)	Aroclor-1242
	NA	NA	NA	NA	U (13)	Aroclor-1232
	ΝΑ	NA	NA	NA	U (26)	Aroclor-1221
	NA	NA	None		U (13)	Aroclor-1016
Comments	in mg/kg	in mg/L	Waste Code	Limit	mg/kg	Constituents
	wastewater	wastewater	TSCA/RCRA	Regulatory	Concentration	
	-uou	Standard for	Applicable	Applicable		
	Standard for	Treatment				
	<b>Treatment</b>	LDR				
	LDR					

U = Not Detected (Detection limit in parenthesis).
D = Dilution Factor of 10